REPORT RESUMES

ED 002 774 24

EFFECTS OF A COMPREHENSIVE OPPORTUNITY PROGRAM ON THE DEVELOPMENT OF EDUCABLE MENTALLY RETARDED CHILDREN.

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REPORT NUMBER CRP-145 PUB DATE 60
IOWA STATE DEPT. PUBLIC INSTR., DES MOINES
EDRS PRICE MF-$0.18 HC-$4.12 103P.

DESCRIPTORS- RETARDED CHILDREN, *EDUCABLE MENTALLY HANDICAPPED, *PSYCHOTHERAPY, *PARENT PARTICIPATION, *GROUP THERAPY, MENTAL RETARDATION, DEVELOPMENT, HUMAN RELATIONS, MENTAL HEALTH, INSTRUCTIONAL PROGRAMS, TESTS, CASE STUDIES (EDUCATION), IOWA, DES MOINES

THIS STUDY INVESTIGATED THE EFFECTS UPON EDUCABLE MENTALLY RETARDED CHILDREN OF A COMPREHENSIVE OPPORTUNITY PROGRAM EMBRACING NOT ONLY GOOD INSTRUCTION, BUT ALSO PSYCHOTHERAPY, A GOOD MENTAL-HYGIENE ATMOSPHERE, AND WHOLESOME AND EFFECTIVE HUMAN RELATIONSHIPS IN SCHOOL, HOME, AND COMMUNITY. THE MAJOR OBJECTIVES WERE--(1) TO SELECT AND/OR DEVELOP INSTRUCTIONAL MATERIALS AND PROCEDURES FOR A PROGRAM OF INSTRUCTION FOR EDUCABLE MENTALLY RETARDED CHILDREN, (2) TO GAIN KNOWLEDGE OF THE LEARNING PROCESSES AND OF THE RATE OF LEARNING OF SUCH CHILDREN, DESCRIBING THEIR LEARNING BEHAVIOR SO THAT ONE MIGHT GET A BETTER IDEA OF PROGRESS TEACHERS MIGHT EXPECT, (3) TO PROVIDE A COMPREHENSIVE DESCRIPTION, IN SCHOOL AND OUT OF SCHOOL, OF THE BEHAVIOR, MOTOR SKILLS, PERSONAL ADJUSTMENT, SOCIAL COMPETENCE, STABILITY, AND CHARACTER OF MENTALLY RETARDED PUPILS, AND (4) TO INVESTIGATE THE EFFECTS OF THE APPLICATION OF A "TOTAL PUSH" TYPE OF AMELIORATIVE AND DEVELOPMENTAL PROGRAM. THE PROJECT SETTING THUS AFFORDED, EVEN FORCED, CONCENTRATION OF EFFORT UPON THIS PART OF THE TOTAL PROBLEM OF EDUCATIONAL PROGRAMING FOR EDUCABLE MENTALLY RETARDED PUPILS. NO RESOURCE WAS USED WHICH MIGHT NOT BE AVAILABLE FOR USE BY ANY LOCAL SCHOOL SYSTEM SINCERELY INTERESTED IN PLANNING ITS INSTRUCTIONAL PROGRAM FOR THE MENTALLY RETARDED, AND NO MORE TIME WAS AVAILABLE FOR THE WORK THAN IS AVAILABLE IN MOST SCHOOLS. THE IMPLICATION THAT SUCH WORK CAN BE CARRIED OUT EFFECTIVELY BY A SPECIAL EDUCATION STAFF OF A PUBLIC SCHOOL IS CLEAR. (GC)

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Effects of a Comprehensive Opportunity Program On the Development of Educable Mentally Retarded Children

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1960

Effects of a Comprehensive Opportunity Program On the Development of Educable Mentally Retarded Children*

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*The research reported herein was performed pursuant to a contract with the United States Office of Education of the Department of Health, Education and Welfare, under sponsorship of the Iowa State Department of Public Instruction and in cooperation with the State University of Iowa and the Cedar Rapids Community School. Funds for publication of the results of this project were provided under the terms of the aforementioned contract.

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1960

ACKNOWLEDGEMENTS

Words of commendation are due many persons for their contributions to the welfare of this Co-operative Research Project. Without the services given by them, the project would never have come into being, much less have been carried through to completion.

To Dr. Dean S. Hage, now of Illinois State Normal University, Normal, Illinois, a special note of appreciation is made. Dr. Hage functioned in many roles: general administrator and co-ordinator, psychologist, teacher, recordkeeper, and others too numerous to mention. It was Dr. Hage who faced the daily problems present in every public school setting and formulated basic working policies. His expenditure of extra time and effort is sincerely appreciated.

Many other staff members gave services indispensable to the project: The classroom teachers, Miss Abbie Lass, Miss Freida Kelting, Miss Joyce Howard (now Mrs. Dan Gholson), and Miss Anne Buffat, without whose continued persistence the teaching program could not have been maintained; Mrs. Ann Hubbell, social worker, who gathered and interpreted extremely valuable material concerning the pupils and their home environment; Mr. Dale Irwin, who served as project recorder and who graciously assumed a teaching role when illness necessitated the extended absence of one of the regular teachers; Mrs. Joan Soen, who so ably directed speech therapy work during the last year of the project; and finally, the secretarial staff, Miss Mary Jo Albaugh and Mrs. Fern Gard, who steadfastly recorded the material as it became available.

It is also recognized that it was only through the co-operation of the Cedar Rapids Public School system that pupils and space for classrooms and offices were made available. Dr. Clyde Parker, Superintendent of Schools; Dr. LeRoy Peterson, Director of Special Education; Mr. Charles Debban, Principal of Taylor School; and Miss Ruth Phillips, Principal of Grant Wood School, were key personnel involved in originating and carrying on the project. Dr. Conrad Wurtz also attended many of the staffings, furnishing valuable commentary concerning the pupils involved.

Finally, appreciation is noted for the over-all co-ordinating responsibility carried so well by Mr. Arthur C. Anderson of the State Department of Public Instruction of the State of Iowa. Mr. Anderson's work facilitated greatly solutions to problems of planning, procurement of materials and supplies, and other business matters.

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CHAPTER 1:

Description of Children

INTRODUCTION

This investigation was planned with two general purposes in mind. The first concerned the characteristics of educable mentally retarded children, as reflected in motor development, social development, educational development, family background data as well as in pediatric and psychiatric examinations. In the second place, we wished to study the effects of a comprehensive program of instruction. The second purpose involved the planning of curricula, supervision of instruction, and attempts to provide a good mental hygiene atmosphere, wholesome human relationships in school, and work with parents.

Three school classes of 15 pupils each were organized in the spring and summer of 1957. Instruction began in September, 1957, and continued through the ensuing two school years. The age ranges of the pupils at the beginning of the program in the three classes were as follows: 6-7, 8-9, and 10-12, respectively. Their Stanford-Binet IQ's, as obtained for selection purposes, ranged from 50 to 75.

The investigation was carried out under the immediate direction of the authors, with the co-operation of the Department of Public Instruction of the State of Iowa and of the Cedar Rapids, Iowa, public school system. The pupils were drawn from the Cedar Rapids school system and were taught in regularly organized schools in that city. In addition to providing the classroom space, the Cedar Rapids schools also provided the usual instructional materials and regular school services, including transportation. While the building principals were responsible for the management of these three classes, they allowed the directors, teachers, and others connected with the investigation complete freedom of operation.

The two directors participated in the project on a part-time basis. The following persons worked full time and were paid salaries out of the project funds: three classroom teachers, one psychologist and co-ordinator, one observer and recorder, one social worker, and one secretary. A speech correctionist worked half-time during the second school year. An additional part-time secretary was also employed from time to time.

In order to provide further data on the educational progress of mentally retarded children, three classes, of the age and IQ range of the Cedar Rapids Project classes, were located in Mason City, Iowa. It was also a part of our purpose to utilize these three classes as a kind of comparison group. The project staff administered psychological and achievement tests to the pupils in the three Mason City classes during the first semester of the 1957-58 school year and again during the second semester of the 1958-59 school year. We were particularly interested in obtaining some additional data on the progress of young children assigned to special classes before they had had the usual experience of failure in regular classes. The Mason City group provided an additional class of such children.

The project directors did not in any way participate in the instructional program of the Mason City group. However, since the director of special education in that city and the teachers involved were well known to us, we did keep in touch with the instruction program in a general way. It is our judgment that, over all, it is among the very best programs of special education in the state.

CHARACTERISTICS

As just stated, one of the purposes of this project was to obtain data on the characteristics of mentally retarded children. Upon the basis of achievement in school and previous performance on psychological examinations, children within the desired age ranges from all school districts in the city were nominated for membership in the three project classes. Testing was then started by the project psychologist and continued until sufficient numbers of children were identified for the classes. A small number of children suspected of mental retardation who had serious physical handicapping conditions were not tested. Otherwise, we believe the sample chosen represents a cross section of the mentally retarded population of Cedar Rapids (a city of about 80,000).

Height and Weight

The height and weight measures of the project children were converted to height age (HA) and weight age (WA) scores, according to the Olson-Hughes Tables.[1] The median HA and WA were compared with the median chronological age (CA) for the children in each of the three classes in months as follows:

	CA	HA	WA
Youngest Class	83.5	78.4	78.5
Middle Class	109.5	109.0	109.0
Oldest Class	131.0	146.0	141.0

By these data, the project children may be said to have made normal height and weight growth.

Motor Development

The pupils in our project, except for two who had physical disabilities, were compared with a sample of mentally normal pupils matched in age, socio-economic status, and sex, on a number of tests designed to measure motor strength, agility, and skill. The Otis IQ range of the control group was 90-110. The names of these tests are shown in Table I, together with comparative data for both boys and girls. The tests were administered and the data reported in Table I, gathered by Clifford Howe.*

These tests are here briefly characterized. The Sargent Jump is a high jump from a standing position. The score, measured to nearest inch, was the best jump in three trials. Balance is a test of general static co-ordination or balance. The subject stands on one foot with the other foot placed against the inside of the supporting knee and with the hands placed against the outside of the thighs. The length of time the subject can maintain this position constitutes the score. This test is one of a battery contained in the Oseretsky Tests of Motor Development. Tracing Speed, is the Macquarrie Sub-Test 1, Tracing Ability; Tapping Speed, the Macquarrie Sub-Test 2; and the Dotting Speed, the Macquarrie Sub-Test 3. Grip Strength was measured by a Smedley hand dynamometer. In the Zig-Zag Run, the subject executed an 80-foot marked path, making eight acute-angle turns. The time taken on the best of three trials became

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[1] Olson, Willard C., Child Development, Second Edition, D. C. Heath and Co., Boston, 1959.

* This part of the investigation was carried out through the co-operation of Mr. Howe, graduate student, State University of Iowa. Clifford Howe, "Motor Characteristics of Mentally Retarded Children," Ph. D. Dissertation, State University of Iowa, pp 22-23

TABLE I

Summary of Analysis for Boys and for Girls of the Mentally Retarded (E) and Normal (C) Groups Including Mean Scores, Differences Between Means, and F-values for Eleven Motor Tasks (Extracted from Tables 2-23).

Boys

Motor Task	Mean Scores		E-C	F-value
	E	C		
1. Sargent Jump	7.06	9.44	- 2.38	30.86**
2. Balance	21.71	51.35	-29.64	69.39**
3. Tracing Speed	11.32	16.97	- 5.65	24.83**
4. Tapping Speed	14.42	18.77	- 4.35	27.47**
5. Dotting Speed	9.06	11.35	- 2.29	14.62**
6. Grip Strength	16.35	20.71	- 4.36	19.73**
7. Zig-Zag Run	15.88	14.34	1.54*	17.97**
8. Fifty-Yard Dash	11.04	9.50	1.54*	33.36**
9. Squat Thrust	31.68	48.10	-16.42	73.53**
10. Ball Throw	23.39	33.58	-10.19	25.64**
11. Maze Tracing	6.84	23.10	-16.26	62.57**

Girls

Motor Task	Mean Scores		E-C	F-value
	E	C		
1. Sargent Jump	6.66	8.83	- 2.17	11.22**
2. Balance	15.00	53.92	-38.92	100.19**
3. Tracing Speed	9.42	15.58	- 6.16	91.74**
4. Tapping Speed	14.42	21.33	- 6.91	13.77**
5. Dotting Speed	8.17	11.67	- 3.50	17.54**
6. Grip Strength	13.75	15.42	- 1.67	2.14
7. Zig-Zag Run	17.75	15.88	1.87*	7.54**
8. Fifty-Yard Dash	12.46	10.23	2.23*	23.76**
9. Squat Thrust	27.83	47.67	-19.84	29.94**
10. Ball Throw	15.17	15.75	- .58	.07
11. Maze Tracing	3.50	17.42	-13.92	18.65**

* Positive sign favors the normal group; for all other tasks, negative signs favor the normal group.

** Significant at the five per cent level of confidence.

the score. The Fifty-Yard Dash was administered in the usual way. Only one trial was given. The Burpee Squat Thrust test starts from a standing position. The subject then squats down, places his hands on the floor in front of his feet, extends his legs backward in the front leaning rest position, returns to the squatting position and stands up. The score was the sum of the number of executions achieved on three trials of 10 seconds each. In the Ball Throw test, the subjects threw tennis balls, over-hand, at an archery target situated 15 feet away. The Maze Tracing test is a circular maze of the paper and pencil type, so modified as not to require the subject to make decisions about entering blind alleys. It was thought that this modification tended to reduce the maze to a simple motor skills task.

It may be seen that in all comparisons except two, significant differences favoring the mentally normal pupils were obtained. On the whole, the differences may be regarded as large. Thus these findings suggest that mentally retarded children, as compared with mentally normal children, are characterized by deficiencies in motor development as revealed by tests of strength, skill, and agility. In selecting the tests, care was given to the intellectual factor involved. Only those tests were used which seemed to place little demand upon the intelligence.

The groups of mentally retarded children were matched with the controls in age, sex, and socio-economic status, but not in height and weight. In these two respects, the mentally retarded children were somewhat below the comparison group. In height, the mean for mentally retarded boys was 52.4 inches, for the comparison boys, 53.9; mean weight in pounds for these two respective groups was 67 and 72. For girls, the height values were 50.8 for the mentally retarded and 51.4 for the controls; the weight means were 61 and 61.2, respectively. It would seem unlikely that these differences are large enough to affect very much the differences obtained on the motor development tests.

Educational Achievement

Educational achievement was one of the main variables under investigation. As such, this will be reported more fully in the following section. However, in order to round out the account of characteristics of mentally retarded children, brief mention is made here of the achievement of our group. The mean IQ of the boys enrolled in the Cedar Rapids Project was 67.5, and for girls, 64.5. Of the Mason City cases, the mean IQ was 67.9. For purposes of present discussion we may say the mean IQ of our group is about 65. This represents 65 per cent of normal mental growth. Children at this IQ level may be said to grow 65 per cent of a mental year for each calendar year.

One might suppose that normal educational growth for such children would be about 65 per cent of a year's progress as measured in grade equivalent scores. An eleven-year-old pupil scoring an IQ of 65 should have a mental age of 7.2. If this child were in the second grade, his MA at the start of the school year should be about equal to that of the average for seven-year-old pupils. His MA should increase .65 of a year during the ensuing year. As just said, one might expect such a pupil to achieve in educational growth about .65 of normal for that grade; or, as measured in grade equivalent scores, he should gain about 6.5 months. We did not find this to be the case, either among the project children or among the Mason City children. Our groups made only about one-half of the anticipated gains.

Thus, our evidence suggests that one of the characteristics of mentally retarded children is a level of educational achievement below what one might expect from their attained levels of mental development and their rates of mental growth. One is tempted to say that they do more poorly in school than they need to. Their educational backwardness seems to be greater than their mental backwardness. We can only suggest that this may be a function of the home life of children during the early years and/or a function of failure and frustration connected with early schooling and early competition with other children.

Medical Evaluations

With the co-operation of a member of the Department of Pediatrics at the State University of Iowa College of Medicine, a complete physiological examination form was devised. A copy of the examination form will be found in the Appendix, page 92.

It was desired that the physiological evaluation be given under conditions as standard as possible, preferably by one physician. A ranking pediatrician in Cedar Rapids examined the examination form, approved it, and agreed to conduct the examinations. He did so, starting in the summer of 1957. The pediatrician contacted the parents and arranged a time to examine the children. This arrangement functioned well until about two-thirds of the children had been examined. It then became evident that the remaining parents would need some outside stimulation in order to meet their child's medical appointment. Thus, the social worker and the psychologist for the program spent considerable time with parents making arrangements for the examination. It was necessary to provide transportation for several parents and children in spite of the fact that these examinations were made at no cost to the family and that each parent had been informed that such an examination would be required.

As may be noted upon examining the medical form used, a record of the children's motor development was included. Common motor skills--vocalization, head control, rolling over, sitting, crawling, standing alone, walking, talking--were arranged in their usual order for chronological development. Of the motor skills included, only two--walking and talking--were reported with sufficient frequency to establish any normative data for the children in the program. The average age for walking and talking of the educable mentally retarded children participating in the project is presented in Table II.

TABLE II

FIRST WALKING AND TALKING: EDUCABLE MENTALLY RETARDED PUPILS
CEDAR RAPIDS - ALL GROUPS

C.A. Group	N	Mean Age-Walking (Months)	Range	N	Mean Age-Talking (Months)	Range
6-7	14	16.1	9-24	14	27.0	12-48
8-9	12	12.8	8-18	11	21.5	12-36
10-12	14	16.0	10-30	12	27.0	12-48
Total	40	14.9	8-30	37	24.4	12-48

Even though all forty-five children in the program were given a physical examination, it may be seen that the totals for walking and talking do not equal forty-five. The reason for this is that several of the informers did not wish it commit themselves for one reason or another as to the age of the child at the time these events were initiated. It should also be remembered that this information was given by mothers sometime after the children had learned how to walk and talk and thus may be subject to some error. For comparative purposes, Gesell's Normative Placement for walking is fifteen months, Terman gives the following norms for talking:

TABLE III

TERMAN NORMS: TALKING*

Classification	Median Age (Months)	Age Range (Months)
Superior	12.00	6-24
Normal	15.80	8-25
Feeble-minded	34.44	12-156

It may be seen that the average age for walking for children in our program was not distinctly different from Gesell's Norms. As for talking, the average age of the educable mentally retarded children in this investigation was about mid-way between Terman's Norms for normal and feeble-minded children.

One of the striking findings of these physical examinations was the high frequency of children who had poor teeth and who, therefore, needed dental attention. The project social worker spent considerable time, throughout the two-year period of the study, arranging dental appointments for various children, one of whom received rather extensive denture work. The social worker co-operated with the school nurse and various social agencies in the community to provide the necessary dental care. The various social, fraternal, and service agencies in the community co-operated whole-heartedly in providing dental care for the children needing financial assistance. Another finding was that far too many of the children had not been immunized against childhood diseases. Needless to say, the examining physician strongly recommended immunization at the time of the physiological examination.

Of the defects noted from the medical history and subsequent examination, epilepsy occurred with the highest frequency (four cases). Next highest in frequency were cleft palate (three cases), a history of convulsions in infancy (three cases), and severe diarrhea in infancy (three cases). Other related physical conditions noted were: postnatal nose bleeds requiring transfusions and high blood pressure during pregancy (two cases each), and one reported case for each of the following: feeding difficulty, allergy, meningitis, excessively small stature, strep throat (at four years), post polio, and mild cerebral palsy.

One gets the impression that over all, the mentally retarded children in this sample are below average as physical specimens.

Psychiatric Evaluations

One of the objectives of the project was to increase our knowledge as to what educable mentally retarded children are like from a psychiatric point of view. With this objective in mind, arrangements were made with the State University of Iowa Psychopathic Hospital to have the children in our three class rooms evaluated by a child psychiatrist. Initially, one child each week was seen at Iowa City; however, another hour was soon added, enabling us to have two children seen each week. During the week prior to a child's appointment, the child's folder, plus a summary of his behavioral problems was left at the hospital so that the psychiatrist might have the opportunity of studying information about the child before he was seen.

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* Terman, Louis M., et al, Genetic Studies of Genius: Vol. I, Mental and Physical Traits of a Thousand Gifted Children, Stanford University Press, 1925.

In all cases, the parent or parents were interviewed after the child had been seen; thus, a brief summary of findings could be given to the parents immediately after the psychiatrist had seen their child.

Most of the parents appeared to be somewhat apprehensive towards this event prior to seeing the psychiatrist. It is certain that some parents had little or no conception of why their child was seeing a psychiatrist, even though an attempt had been made to explain the purpose of these evaluations. It appeared equally certain that most of the parents were quite relieved to have this experience completed, yet most expressed the opinion that they felt the experience valuable to them in helping to understand their child. Parents of two children in the three classes refused to have their child evaluated by a psychiatrist, even though persistent attempts were made to convince them that such an evaluation could be beneficial both to them and their child.

Forty evaluations were eventually completed. Seven children, or 17.5% of the sample, were diagnosed as having "adjustment reaction of childhood, " one as having "epileptic personality with maladjustment, " and one as "conduct disorder secondary to anxiety." Thus, 22% of the pupils in the project were diagnosed as having some sort of psychiatric problem.

It was suggested that three of the other children seemed to have more potential than was indicated by previous psychometric examinations. Of these three children, two tested toward the upper limit of the pupils in our program and one near the lower limit. Although it was felt by the examining psychiatrist that their potential was greater than had been recognized, the fact remains that these children were functioning as though they were retarded. Both academically and socially, they were misfits in their regular class rooms. Certainly further and more intensive study could be directed toward this type of child. At the present time, it seems very difficult to differentiate between the truly mentally retarded children and those who function as mentally retarded.

It was suggested that three additional children had problems ranging from timidity and dependency to excessive fantasy accompanied by a fear of people. On the whole, fifteen, or 37.5% of the 40 children exhibited to the psychiatrist some sort of personality problem.

Speech and Hearing Data

Through the co-operation of the Division of Special Education, Iowa State Department of Public Instruction, speech and hearing examinations were conducted during the first month of the project. The results indicated that 62% of the children were in need of direct remedial work in speech and that an additional 21% were in need of training of a type that could be carried out by the classroom teacher with the co-operation and direction of a therapist. One case of severe hearing loss and four cases of moderate loss were revealed.

According to Johnson's Speech Handicapped School Children,* five to ten per cent of children in the normal school population are in need of speech training. Thus, there is a difference of greater than 50%

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* Johnson, Wendell, et al, Speech Handicapped School Children, Harper and Brothers, New York, 1956.

between the expected frequency of speech problems among school children in general and the obtained frequency among the mentally retarded children involved in this project.

Social Maturity

The children in the project were appraised twice by the Vineland Social Maturity Scale, once during the first few months of the project's life, and again near the end. The mean scores for the two periods and the three classes are shown in Table IV.

As may be seen in Table IV, the children in the project showed considerable deficit in social age (SA). The approximate mean mental ages of the three age groups determined at the time of the first administration of the social maturity scale are also shown in Table IV. It may be seen that retardation in social development is less severe than retardation in mental development. Except for the youngest group, the SA's are a little closer to the MA values than to the CA values.

It may also be observed that the children made normal gains, more or less, during the interval between the two administrations of the social maturity scale.

TABLE IV

VINELAND SOCIAL MATURITY DATA

	Class 1			Class 2			Class 3		
	First Administration								
	CA	SA	MA	CA	SA	MA	CA	SA	MA
	7.2	5.9	4.7	9.5	7.4	6.2	10.8	8.7	7.0
CA-SA		1.3			2.1			2.1	
	Second Administration								
	8.4	7.2		10.7	8.2		11.9	9.9	
Gains	1.2	1.3		1.2	.8		1.1	1.2	

Conceivably, this may reflect the influence of the program on the parents or its influence upon the children, or both. As the reader will recall, the information called for on the Vineland scale is obtained from the parents.

Socio-Economic Status

A rough approximation of the social class distribution of the sample was obtained by application of a modified Warner scale, Index of Status Characteristics. In this case, the families of 31 children fell within the lower-lower class; 9 within the upper-lower class; and 5 within the lower-middle class.

CHAPTER 2:

The Instructional Program and Academic Testing

INTRODUCTION

The announced purpose of the instructional program of the study was the selection and development of materials and procedures having special merit for use with educable mentally retarded pupils. This was an extremely broad and diverse area of inquiry necessitating both individual work on the part of the classroom teachers and group work involving directly the efforts of the teachers, the project administrator, and the curriculum consultant who served as co-director of the project. Indirectly, the involvement included all project staff members, for in some manner all the evidence gathered and the impressions drawn from contacts with the pupils bore a relationship to the instructional program. Not always could the evidence or impression be transferred directly into classroom practice, but the lack of immediate application does not deny usefulness in planning policy or in providing a background for the discussion of policy.

In practical terms, what was needed as a description of what the instructional program was accomplishing was a comprehensive outline of important curriculum areas and their treatment within the total range of instruction. Moreover, attention needed to be given to the work of each instructional level independent of the others, for in a system of education which retains pupils for two or three years in the same class group under the direction of the same teacher, problems of the proper sequence of instruction become readily apparent. Finally, the ultimate success of a program of instruction for the mentally retarded is based upon progress of individual pupils in accomplishing goals of the areas considered important. The acceptance of such a point of view means that the use of testing results in the areas of importance assume significance in assessing the worth of the educational approaches practiced in the classrooms involved in the study.

All three types of description are included in this final project report. All are important sources for deciding whether or not the academic phase of the project represented something of value in its conception and application. The purposes, presentation, and possible interpretation of each type of evidence are presented separately in the following pages, with a summary concluding the section.

THE COMPOSITE INSTRUCTIONAL PATTERN

At the beginning of the second year of the project, it was decided that an item of immediate importance was a comprehensive description of the total instructional program for the pupils involved in the study. Previous to this time, planning for instruction had been carried out through supervisory activities of the project administrator working with individual teachers, and through general considerations upon occasion at weekly meetings attended by all project personnel. The need for the comprehensive plan had not been keenly felt during the first year for two major reasons: the youngest class was unique in the experience of the staff personnel and the work with them was thereby highly experimental in nature; the teachers of the two older classes were in the second year with their classes and therefore were able to continue building upon what had been the first year of instruction for them. Other factors also entered the decision to attempt a written version of the total instructional plan. The problem of pupil transferral to older classes was imminent as many of the pupils entered their third year with the same class group. Thus the question of sequence for instructional topics became of prime concern. The over-all success with the youngest group indicated that the program of instruction for such an age group needed to mesh with what would be included later in their school experiences.

What was desired as a final outcome of the co-operative planning was, on the one hand, a definition of the scope of an instructional program for pupils of the age range involved in the project, and on the other hand, an indication of the developmental sequence to be employed for instruction in the various curriculum areas. It was realized that the process which would be needed for the construction of the co-ordinating plan would itself be a vehicle for a full discussion of the instructional program.

The group planning by the teachers and curriculum consultant, extending over a period of approximately four months, resolved into two major tasks: (1) Determining what instructional areas, topics, and skills were both important and feasible for educable mentally retarded classes of the age levels involved in the project; and (2) Recording, for each class group, the areas which had been dealt with during the two years of the project. The latter task, for purposes of specificity, included an indication of the major avenues through which instruction in the given item was gained.

The first task was accomplished largely by group discussions at weekly curriculum meetings and at one lengthy evening session. After the work of several sessions had determined the format and basic working procedures, the individuals involved were assigned areas for development and their work discussed at subsequent group sessions. Duplicated, up-to-date copies of the outline were constructed by the consultant following each group session and were distributed as the working materials for the next session.

The task of describing the actual work undertaken in the three classes was done at the close of the planning period by the teachers, the consultant co-ordinating and editing the descriptions to fit space requirements.

A few comments relative to the interpretation and use of the Composite Instructional Pattern are in order at this point. It will be noted that comments included under "Major Avenues for Development" range from highly specific items (e.g. units on the farm, helpers, family, etc.) to notations of more general consideration (e.g. planning and taking trips, study of ways of travel, matching games, grocery store play, etc, etc.), and finally to extremely general indications of the ways in which the work was done (e.g. general review and practice, work as needed in individual cases, outline of work areas generally followed, etc.). To be replete in detail would mean a bulk of material too large for efficient use. If dealt with only in generalities, the areas in the outline would hold little meaning for those other than the participants themselves. Usually, specific notations in the outline indicate emphasis in the instructional program for that level; general notations are taken as re-introduction, review, and maintenance work. An attempt was also made to keep the instructional areas and major avenues parallel in the written guide. As an organizational convenience, it was finally decided to list major avenues for each major sub-section under each instructional area; that is, for each portion designated by a capital letter. Thus, three major avenues are indicated as being utilized in working with the youngest group in the instruction concerning plants under the general area of science; five appear for tools and machines; thirteen for animals; fifteen for health and safety; and three for weather. For the most part, the avenue appears approximately opposite the portion of instruction to which it relates.

A reading of the Composite Instructional Pattern will reveal an absence of notations concerning some of the areas for one or more of the instructional levels. Such absences do not necessarily indicate disregard in the teaching program. It well may be that the work was so incidental to other work that it could not legitimately be said to be of major proportions. It may be that the level of work was of such intrinsic difficulty as to require postponement until a later age. Finally, it is possible that even though work in the area was considered to be of importance for an educable class, it was not possible to fit it into the instructional program because of other more crucial demands upon time.

This final version of the Composite Instructional Pattern has been slightly abridged in order to conserve space. The abridgement has been one of deleting the details which originally served as subpoints under several of the academic areas, notably for the social studies "work areas" and "transportation" sections. In view of the purpose of the guide in presenting the over-all pattern, these do not appear to be serious deletions.

The Composite Instructional Pattern may prove to be of value for other programs of special education in two ways. First, it may serve as motivation and as discussion material for instituting local planning for the curriculum of an educable class system encompassing pupils from seven to fourteen years of age. In the second place, if the plan is as comprehensive as desired, it may be used as a reference point in assessing the scope and sequence of an existing system of educable classes or the preliminary plans for extending a system beyond a single ungraded class or one having an extremely wide age range. The plan evolved from the experiences in two years' work with the project classes does not represent a model in the sense of being an ultimate for educable classes in all places; it does represent the considered judgment, tempered by actual experience in classroom situations, of the teaching and supervisory personnel of the project staff.

INSTRUCTIONAL LEVEL SUMMARIES

However well an outline such as the Composite Instructional Pattern indicates how work in important curriculum areas was brought about, it cannot show either the success which attended the work or the sequence of instruction within the two-year period for each instructional level. It was for these two reasons that summaries of the instructional program carried on at each level were compiled. As a condensation of two years of teaching effort, they necessarily omit details in favor of general practices. Even so, they provide a more precise description of the major points of emphasis within each class group and afford to the interested reader a body of information concerning what can be undertaken with a likelihood of

COMPOSITE INSTRUCTIONAL PATTERN

	Major Avenues for Development		
Instructional Area	Level 1 (youngest)	Level 2 (intermediate)	Level 3 (oldest)
I. Science			
A. Plants 1. Parts of a Plant 2. Plant Growth and Care 3. Preparation of Plants for Food	1. Project: Raising small plants in the classroom; parts identified and discussed. 2. Project: Planting and caring for a small garden.	1. Project: Planting and observing beans. 2. Visit: Farm during harvest season; learning extended through stories and films.	1. Construction of a seed chart. (fall) 2. Experimentation with requirements for seed growth.
B. Tools and Machines 1. Hand tools a. Schoolroom 1. Types: Scissors, brushes, crayolas, pencils 2. Safety with tools in classroom. b. Home 1. Types: Hammer, pliers, screwdriver, saw, kitchen tools 2. Household repair 3. Safety with tools at home c. Lawn and garden 1. Types: Rake, spade, shovel, hoe, lawnmower, wheelbarrow. 2. Safety with woodworking tools 2. Simple machines	1. Emphasis on safety with classroom tools. 2. Discussion of simple kitchen tools in unit, Mother's Work. 3. Discussion of simple home tools in unit, Father's Work. 4. Application: Putting toys and tools away after use at school and home. 5. Lawn and garden tools considered in unit, The Garden and in all seasonal studies.	1. General review and practice. 2. Discussion upon the arrival of new workbench.	1. Construction of pot holder racks, bread boards, etc. 2. Specific instruction: squaring a board; sanding; painting; measuring; using plans and patterns.
C. Animals (Including birds and fish) 1. Animals as Pets a. Care 1. Kindness 2. Handling procedures 3. Basic requirements of life b. Pets as business 1. The pet store 2. Home raising of rabbits, etc.	1. Care and discussion of classroom pets; rabbit and guinea pig. 2. Pet stories read and discussed. 3. Films viewed. 4. Visit: animal hospital, 5. Unit, How Animals Get Ready for Winter. 6. Bulletin board and discussion of hibernation.	1. Care of hamster and chicken in classroom. 2. Stories and films of pets. 3. Pets brought to school. 4. Visit: Pet store.	1. Study and care of hamster in room. 2. Discussion and study of pets brought to school. 3. Planned trip to pet store. 4. Study of identification of common wild animals by track birds by color. 5. Study of winter care of birds. 6. Unit, Water, Plants and Animals.

	Level 1 (youngest)	Level 2 (intermediate)	Level 3 (oldest)
2. Wild Animals a. Habits and habitat 1. Food 2. Shelter 3. Hibernation 4. Winter Feeding b. Trapping c. Conservation 1. Protection of wild animals 2. Observing hunting laws 3. Farm Animals a. Uses 1. Work 2. Source of food 3. Pleasure b. Care	7. Films viewed. 8. Stories read and discussed. 9. Unit, Animals on the Farm In Spring. 10. Visit: Farm (Spring) Emphasis: wool and chickens 11. Unit: Raising Chicks 12. Visit: Turkey Farm	5. Stories and discussion of bears, birds, etc. 6. Nature hikes in fall and spring.	7. Visit: Farm 8. Study of common farm animals
D. Health and Safety 1. Independence in Getting from Place to Place a. Walking 1. Getting to specific places as directed within the school building 2. Observing pedestrian traffic signs and patrol orders 3. Knowing pedestrian traffic rules a. Jaywalking b. waiting on curb 4. Walking to bus pick-up station 5. Walking downtown a. directions b. store doors c. escalators and elvators 6. Highway walking 7. Hazardous conditions a. darkness b. rain c. snow b. Buses (school) and family car c. City Transportation d. Bicycles	1. Unit, Our School 2. Responsibility in taking messages to staff 3. Returned articles found on playground 4. Walks to nearby stores stressed signs and rules 5. Bus ride downtown to view Christmas decorations 6. Discussed during unit, The Grocery Store. 7. Discussed at times of weather change, used Weekly Reader. 8. Short trip on Greyhound bus; bought tickets, etc. 9. City bus trips. 10. Fire drill preparation 11. Playground incidents 12. Seasonal variations in weather (ice, snow, rain, etc.) 13. Pencils in the classroom 14. Unit, Body Care, including bathing, washing hair, fingernails, teeth, foods, exercise, rest.	1. Carried messages to other rooms. 2. Excursion (local) to observe traffic and safety signs. 3. Listing of safety rules. 4. Review and practice of rules and periodically. 5. Discussed bicycle safety during spring city licensing 6. Discussion and formulation of school rules. 7. Daily health check. 8. Brushing teeth after noon meal. 9. Discussion of seasonal clothing. 10. Study of Basic Seven foods.	1. Orientation to the entire building. 2. Carried messages to other rooms. 3. Study of new traffic signals. 4. Developed rules for safe walking when on excursions. 5. Study of addresses, bus routes, getting around in the city. 6. Planned outing to park. 7. Study of bicycle safety. 8. Visitor: Police Lt. discussing bicycle safety. 9. Transportation unit. 10. Weekly Reader stories 11. Operation and practice with manually-operated city traffic signals. 12. Observation of special weeks (Fire Prevention, Bicycle, Safety, etc.); took home fire hazard checklists. 13. Unit: Water Safety 14. Arts and crafts work with tools. 15. Unit, The Teeth, including foods, cleaning, the dentist.

	Level 1 (youngest)	Level 2 (intermediate)	Level 3 (oldest)
2. Safety in Work and Play a. Playgrounds b. Schoolroom c. Home d. Water safety e. Accident prevention and first aid f. Fire prevention g. Tools 3. Body Care (Health) a. Body Cleanliness (skin, teeth, hair, etc.) b. Clothing c. Food d. Preventative health 1. Dentists and doctors	15. Preparation for lunch daily		16. Discussion of health stories. 17. Study of grooming and discussion in noon sessions.
E. Weather and Seasons	1. Daily weather record. 2. Discussion of seasonal changes. 3. Naming the seasons and months.	1. Daily calendar and weather record-comparison of seasonal temperatures over a two-year period.	1. Study of each season--changes in weather, habits, clothing, etc. 2. Keeping daily record - comparison of monthly statistics; used in season charts.
II. Language Arts A. Spoken Communication 1. Listening a. Paying attention 1. Telling time (sharing time) 2. Story-telling (teacher) and reading 3. Listening to records 4. Retelling of stories (pupil) b. Following directions 1. Listening to records c. Listening vocabulary 1. Auditory discrimination 2. Speaking a. Speech stimulation 1. Books (reading to class) 2. Finger plays 3. Background experiences a. excursions b. visitors c. experiences in the home d. parties	1. All parts of this section included in the instructional program. Points of special emphasis were: Listening to stories; Retelling films and filmstrips in own words; Full discussion of excursion plans and events. Small committee work in preparing parties; Use of records for dramatization. 2. Part of the reading readiness program.	1. Sharing time each morning and afternoon. 2. Excursions: Park, library, pet store, farm, bakery, turkey farm, band concert, kite flying; ice cream factory. 3. Halloween parade and party. 4. Projects: making popcorn balls, applesauce, cookies, jello, etc. 5. Viewing films. 6. Emphasized as important in all classroom activities.	1. Sharing time daily. 2. Noon discussion groups. 3. Emphasis upon listening to directions for activities. 4. Records: Sounds Around Us; Time For Poetry. 5. Co-operative planning of activities. 6. Acting as room host or hostess. 7. Acting as room messenger. 8. Use of tape recording for voice improvement.

	Level 1 (youngest)	Level 2 (intermediate)	Level 3 (oldest)
4. Pictures 5. Records 6. Films 7. Objects and Models b. Auditory discrimination of own speech 1. Realization of problem 2. Discrimination between sounds and words 3. Discrimination between correct and incorrect (cat-tat, wass-lass) c. Speech development 1. Single word responses 2. Phrase responses 3. Sentence (single idea) responses a. expression b. correct form 4. Multi-idea responses a. expression b. correct form	3. Emphasized individual progress-most pupils were using multi-idea responses by end of second year, although the correct form and expression were frequently lacking.		9. Use of tape recorder. 10. Emphasized as important in all activities.
B. Reading 1. Reading readiness a. Experience background b. Visual discrimination c. Auditory discrimination d. Miscellaneous (left-to-right; top-bottom; sequence, etc.) 2. Beginning Reading a. Sight vocabulary b. The reading process 1. Word meanings 2. Word recognition 3. Context (relation to other words) c. Word attack skills 1. Configuration 2. Consonant Sounds a. beginning b. ending 3. Rhyming words 4. Medial consonant sounds 5. Blends 5. Endings d. Independent reading 1. Book selection 2. Developing interest	1. All parts of reading program utilized through texts and teacher-made worksheets and discussion. Points of emphasis: Providing background experiences through many excursions, films, and sharing experiences. Noting the details of pictures and exercises in completing missing details. Recognition of pupils' names, colors, and color names. Word building through discussion and drill. 2. Visit: public library-selection of book. 3. Daily period (10 min.) for selection and looking at books.	1. Use of experience reading stories. 2. Texts and teacher-made worksheets. 3. Experience reading stories. 4. Text and teacher-made worksheets. 5. Matching pictures, symbols, letters and words. 6. Weekly Reader exercises. 7. School library books taken home, both to be read by and read to pupil.	1. Work used as needed in individual cases. 2. Basic reading series used. 3. Experience reading stories. 4. Use of file of word mastery for individual pupils. 5. Practice-basic vocabulary flash cards. 6. Attack skills used in presentation of new words for stories. 7. Word games. 8. Trip to library and selection of book. 9. Study of how to use the library.

	Level 1 (youngest)	Level 2 (intermediate)	Level 3 (oldest)
C. Writing Skills 1. Written messages a. Letter writing b. Forms c. Informal 2. Experience Reading Stories 3. Writing Readiness 4. Mechanics of Writing	1. Dictation of letters for special events (Thanksgiving, resource person, etc.) --Teacher copies letter. 2. Copying of letters dictated from teacher's prepared model. 3. Addressing envelope (copying) 4. Stamps (first class and airmail)	1. Copying blackboard model of letter on paper. 2. Addressing envelope 3. Stamps 4. Beginning of original sentences and stories. 5. Use of circle and line drawings for readiness.	1. Dictation (copied) form stressed (including permission slips and invitations) 2. Individual letter writing (Friends, thank you notes, people who have moved). 3. Addressing envelopes. 4. Stamps 5. Experience stories
III. Social Studies A. Work Areas 1. Within the home a. Mother's work 1. Rooms where she works 2. Other work 3. Machines that help her work 4. Why mother works b. Father's work 1. His job 2. Machines that help him 3. At home 4. Why he works c. Children's work 1. Care of self 2. Helping mother 3. Helping father d. Family 1. Family project 2. Family planning 2. Community Workers a. Fireman 1. His work 2. Machines that help him 3. What he wears 4. How we can help the fireman b. Policeman 1. His work 2. Machines that help him 3. What he wears 4. How we help	1. Units taught: Mother's Work, Father's Work, Children's Work 2. The outline of work areas was generally followed 3. Unit, The Fireman 4. Visit: Fire Station 5. Considered in health and safety work. 6. Work brought in incidentally with transportation unit 7. Unit, The Mailman, following the outline of content. 8. Visit: the post office; mailed letters and package. 9. Unit, The Bakery, following the outline. 10. Visit: Large baking company. 11. Making bread and cookies in the classroom.	1. Incidental work through class discussion as situations dictated 2. Films and discussion. 3. Visit: local bakery; planning the trip, writing experience stories of the trip. 4. Project: Making and baking bread at school, emphasizing the yeast action, cleanliness, temperature necessary for baking, etc.	1. Unit, Our Family, stressing responsibility; role-playing of situations; discussion and stories of family. 2. Incidental study as related to other areas, e.g. safety

	Level 1 (youngest)	Level 2 (intermediate)	Level 3 (oldest)
c. Mailman 1. His work 2. His clothes 3. Helping the mailman d. Baker 1. His work 2. His helpers 3. Machines that help 4. Clothes he wears 5. Cleanliness 6. How to buy bakery goods. e. Grocer 1. What he sells 2. Where he gets the food and produce 3. How food keeps fresh 4. How he sells 5. Helpers 6. Tips on buying f. Gas Station Man g. Construction Worker h. Kitchen worker i. Waitress j. Truck Drivers k. Painters l. Janitors m. Newsstand Man n. Shoe shine Man o. Repair Man	12. Unit, The Grocery Store, following the outline. 13. Visit: supermarket. 14. Construction of block store in classroom. 15. Discussed as they pertained to the pupils' families.		
B. Transportation 1. Autos a. Types b. Uses c. Safety d. Mechanics 2. Trucks a. Types b. Uses c. Safety and mechanics d. Training for a truck driver 3. Buses a. Types b. Uses c. Helpers d. Depot e. Safety f. Mechanics	1. Unit, Trucks, following suggested outline. 2. Unit, Buses, following the suggested outline.		1. Unit, Travel. 2. Study of ways of travel, planning for travel, how to get travel information. 3. Discussing summer vacation trips. 4. Planning and taking trips to local park, zoo. 5. Safety in travel through consideration of safety.

	Level 1 (youngest)	Level 2 (intermediate)	Level 3 (oldest)
4. Train a. Types b. Uses of cars. 1. Passenger and Streamliner 2. Freight c. Workers 1. On train 2. At the depot d. Safety e. Mechanics 5. Airplanes a. Types b. Uses c. Helpers 1. On Plane 2. Airport d. Safety 1. Control tower 2. Radio contact 3. Radar 4. Runway lights and beacons 5. Windsock	4. Unit, Trains, following the outline of content 5. Unit, Airplanes, following the outline of content		
C. Food 1. Types a. from earth (plants, grains, leaves, roots, stems) b. from sea (fish and other sea foods) c. from animals (meat, milk, and other dairy products) 2. Composition a. proteins b. carbohydrates c. fats d. minerals e. vitamins	1. Unit, Breakfast. 2. Preparation of one breakfast at school 3. Food types and selection studied in Grocery Store unit. 4. Incidental work in health and safety. 5. Study of bread in Bakery unit.	1. Book, Ten Big Farms, read to the class in its entirety as an introduction to the year's work; "Food" was a recurrent theme throughout the year.	1. Work in seeds and plants with cereals, fruits, and vegetables.
D. Clothing 1. Types of fabrics and characteristics a. Cotton b. Woolens c. Silks d. Linen e. Synthetic fabrics	1. Study of processing of wool. 2. Visit: seeing sheep sheared on the farm		1. Choice and care of clothing treated in conjunction with study of changing seasons and in family responsibilities work.

	Level 1 (youngest)	Level 2 (intermediate)	Level 3 (oldest)
2. Clothing Production a. Raw materials 1. Cotton 2. Wool 3. Silk 4. Linen 5. Synthetics b. Production process (for 5 major types) c. Finishing processes 1. Methods (bleaching, textiling, printing, dyeing) 2. Purposes 3. Choice and care of Clothing a. Selection (color, style, size, quality of cloth, etc.) b. Care (pressing, mending, patching, washing, cleaning, etc.) c. Use (choice for school, work, sports, etc.)			
E. Shelter. 1. Different types of homes a. Homes built on ground (tepees, igloo, huts, houses, etc.) b. Homes built on water (boat, houses, etc.) c. Homes on wheels (trailers) d. Homes of differing materials (wood, mud, stone, brick, paper, metal, etc.) 2. The process of building a home a. Location b. Leveling c. Building the basement d. External and internal construction (walls, fireplaces, etc.) 3. Keeping a home in repairs a. Painting b. Electrical repairs c. Internal repairs (pictures, shades, curtains, mending, replacing glass, etc.)	1. Discussion of how school was made. 2. Guided observation of concrete walls of school before building of block post office.		
F. Holidays 1. Famous Americans (Lincoln, Washington, etc.) 2. Religious (Both Christian and Jewish)	1. Weekly Reader stories and pictures of Lincoln and Washington.	1. Stories read aloud to class.	1. Stories read to class. 2. Pictures of persons and events.

	Level 1 (youngest)	Level 2 (intermediate)	Level 3 (oldest)
3. Historic Events (Thanksgiving, election day, Veteran's Day, Columbus Day, Arbor Day, St. Patrick's Day, etc.)	2. Discussion and bulletin board display of Christmas and other holidays.	2. Bulletin board displays for major holidays. 3. Art experiences at Christmas in making cards, gifts, and room decorations.	3. Marking and discussing special days on the calendar. 4. Bulletin board displays.
IV. Arithmetic A. Number Names and Counting 1. Rote counting 2. Rational Counting a. Single b. Group	1. Number names, 1-100 by rote: by 1's, 5's, 10's with objects and semi-concrete materials. 2. Rational counting to the same degree.	1. Names to 100 and counting to 100 by 2's, 5's, and 10's through the use of objects and semi-concrete materials.	1. Rhymes and songs for rote counting. 2. Graph kept for individual success. 3. Games used for rational counting. 4. Manipulative objects (number cards, wooden spoons, discs, spools, etc.) used in giving number concepts. 5. Hundreds boards and other similar devices.
B. Basic Number Concepts 1. Groups a. Tens b. Hundreds c. Thousands 2. Size a. Gross comparison b. "twice as large" and similar comparisons 3. Quantity 4. Distance	1. Use of stick bundles, drawings, felt board. 2. "Large-small"; "big-little"; "more-less" concepts formed through pictures and discussion.	1. Idea of 1's and 10's developed through objects. 2. Practice with "larger-smaller", "more-less", "full-empty".	1. Dominoes, bean bag, ring toss, and other devices used as practice. 2. Manipulative materials-bundles of counters and others-used as practice. 3. Practical application: arranging pupils in order of height; finding largest and smallest desk; longest and shortest chalk, etc. 4. Specific comparison of sizes: twice as many; three times as long; one-half as much in practical class situations. 5. Application in party planning and art work.

	Level 1 (youngest)	Level 2 (intermediate)	Level 3 (oldest)
C. Processes 1. Addition a. Basic combinations b. With carrying c. With money d. Measures 1. Length 2. Liquid 3. Weight 2. Subtraction 3. Multiplication 4. Division a. Division by manipulation b. Basic facts c. "Separating" into groups 5. Problem Application	1. Concrete objects with basic combinations. 2. Worksheets (teacher-made) 3. Application to immediate classroom situations. (Number of people here; books on table, etc.) 4. Money values and coin names studied through lunch money returns. 5. Matching game with money. 6. Play money used in classroom store. 7. Oral addition and subtraction.	1. Flannel board demonstration of all possible combinations making a given number (sum). 2. Used objects at desk. 3. Discs on magna-board. 4. Number line. 5. Drawings to complete the group of ten ones in one addend to see how many ones were left over. 6. Flannel board and objects at desk for introducing subtraction without borrowing.	1. Taught concurrently, beginning with concept of a group. 2. Derivation of combinations from manipulation of objects. 3. Written facts developed by group from manipulation and individual practice. 4. Written exercises solved by use of counters. 5. Flash cards used for practice for mastery.
D. Number Forms 1. Whole numbers 2. Denominate numbers 3. Fractions 4. Money 5. Measures a. Linear-in., ft., yd., miles, blocks. b. Time-min., hr., day, week, month, year. c. Volume-cup, pt., qt., gal. d. Weight-oz., lbs. 6. Problem Application	1. Money names and values taught through use of real and play money: 1¢, 5¢, 10¢, 25¢, 50¢, $1.00. 2. Lunch money counted daily. 3. Matching games and grocery store play. 4. Use of standard measures in party preparation. 5. Daily calendar work with days, weeks, months. 6. Introduction of "one-half" through division.	1. Practice in writing whole numbers-review. Stressed both the form and sequence. 2. Practice with real money: making change, laying out equal amounts for quarter, dime, nickel. 3. Playing store with toy money. 4. Daily calendar and reading of clock. 5. Discussed week, month, year.	1. Games with paper figures. 2. Teacher worksheets and directed group exercises. 3. Manipulation of objects. 4. Counting milk and lunch money daily. 5. Play store and bank. 6. Construction of coin chart. 7. Linear measures through art work, measurement of room, distance to school, etc. 8. Time: daily class schedule, toy clocks, monthly calendars, etc.
V. Art and Practical Arts A. Media 1. Water color 2. Textile paint 3. Finger paint 4. Clay and other modeling 5. Chalk and Crayon	1. Easel painting (water color). 2. Line drawing and hand designs (finger paint). 3. Models and dishes (clay) 4. Room and party decorations, story illustrations, animal pictures, bulletin board murals (chalk and crayon)	1. Use of water color, finger paint, clay, chalk and crayon, and paper for various types of purposes (see B)	1. Decorating booklet covers (water color). 2. Wall decorations, Easter eggs, greeting cards (water color). 3. Free expression (finger paint).

	Level 1 (youngest)	Level 2 (intermediate)	Level 3 (oldest)
6. Paper a. Tearing b. Wetting c. Collage d. Construction 7. Metal 8. Wood 9. Cloth 10. Printing Materials a. Linoleum b. Potatoes c. Cork 11. Leather	5. Wet paper pictures, outdoor scenes, collage, party hats (paper). 6. Free play periods often used by individuals for work in art.		4. Decorations: Christmas, Easter (clay). 5. Designs for bulletin board (chalk and crayon). 6. Masks (paper). 7. Designs and decorations (metal).
B. Uses or Purpose (Functions) 1. Free expression and Manipulative Experience. 2. Decorations a. Printing b. Room c. Tables d. Booklet covers e. Gift wrap f. Mobiles 3. Gifts. 4. Posters 5. Toys, play equipment, games, puzzles 6. Puppets 7. Greeting cards 8. Illustration and room activities, pictures, murals, models, drawings. 9. Jewelry (plastic, shell) 10. Clothing a. Doll b. Child's own 11. Household and Yard Articles a. Bird houses b. Bread boards, etc. 12. Seasonal and Holidays (Halloween, Christmas, etc.) 13. Leisure-time activities (done at home)	1. Free play period often utilized by individuals. 2. Parties and holidays. 3. Gifts for Mother's Day, Christmas. 4. Pictures sent to ill classmate. 5. Puppets (paper bag) to dramatize short plays. 6. Greeting cards at Christmas, Valentine's Day, Birthdays. 7. Halloween masks. 8. Valentine folders. 9. Easter baskets and egg dyeing.	1. Drawing pictures of own choice. 2. Drawing pictures with directions from teacher. 3. Illustrating stories and as follow-up to films viewed. 4. Crayon, etching. 5. Line design and scribble drawing. 6. Holiday activities. 7. Making kites. 8. Sack puppets. 9. Mural to accompany study of the farm.	1. Response to music. 2. Booklet and calendar covers, bulletin board signs, pictures, decorations for holidays, decorations for parties. 3. Special week posters (bicycle, fire). 4. Puppets for dramatizing stories read. 5. Cards for Mother's Day, Christmas, Birthdays, Illnesses. 6. Clothing for the room doll. 7. Repairing own clothing. 8. Weaving mats and scarves. 9. Birdhouses.

	Level 1 (youngest)	Level 2 (intermediate)	Level 3 (oldest)
VI. Music A. Vocal Music 1. Singing games 2. Story songs 3. Familiar and patriotic songs 4. Popular songs 5. Song dramatization	1. All areas of vocal music program taught in classroom music program by the teacher.	1. Songs taught through the use of records.	1. Quiet music during resting time. 2. Accompanying art class. 3. Use of rhythmic movement to accompany selections. 4. Rhythm band.
B. Listening Activities	1. Instruction in listening for changes in tempo, rhythm. 2. Following action records without teacher direction. 3. Performance by individual pupils or small groups.	1. Records used for purposes of enjoying music. 2. Attendance at local band concert.	
C. Rhythmic Activities	1. Free interpretation of music. 2. Simplified folk dancing and square dancing. 3. Rhythm instruments.		
VII. Physical Education A. Singing Games B. Group Games and Activities C. Individual Games and Contests D. Quiet (indoor) Games	1. All types of activities taught in the classroom program by the teacher.		1. All parts of the outline utilized in the classroom program.

eventual success. The Summaries, like the Composite Instructional Pattern, may be considered as realistic goals for instruction to be reached for the age levels indicated. There has been no attempt to exaggerate attainments or to minimize them--they appear as judgmentally approximated by the personnel most closely associated with the instructional program.

The obvious point of application for the Summaries to other special education programs is that of serving as a resource in planning instructional programs for pupils of the three age levels treated in the project. They may be used to assist teachers in arriving at realistic expectations before assuming the mangement of a class for a two or three year period. They also supplement the Composite Instructional Pattern by lending additional comment for the education of the brief notations cited as major avenues for the development of important instructional areas.

The Summaries are organized on the basis of instructional areas corresponding to the traditional subjects of the elementary school. Such an organization may be deceivingly structured. In truth, all the classes operated with a schedule within which the same type of activity was engaged in at approximately the same time each day. By so ordering the school day, it was felt that the pupil could anticipate activities and thereby gain some needed assurance concerning school. However, certain parts of the school day were set aside for free activities. Also, there were frequent instances in which the work from one instructional area contributed to or profited from work of another instructional area. It is for simplicity in reporting as well as necessity in planning that the organizational scheme of subject areas is used.

The Youngest Class Group (C.A. 6-8)

Beginning the School Day

In the line with the preceding comments concerning scheduling, the following is presented as representing a typical day's schedule:

9:00-9:30	Calendar, counting, and sharing
9:30-10:00	Arithmetic
10:00-10:25	Free Play
10:25-10:50	Recess and quiet activity
10:50-11:25	Social Studies or Science
11:25-12:40	Lunch
12:40-1:05	Quiet Rest
1:05-1:45	Language Arts
1:45-2:05	Music
2:05-2:25	Recess and quiet activity
2:25-3:00	Art, dramatization, physical education, or story
3:00-3:30	Free Play

The beginning period in the school day incorporated quite diverse activities, depending upon the situation. It was designed to accomplish several objectives. First, the day was started by noting the correct day, date, and month of the year, thus helping to develop time concepts. Second, this period afforded ample opportunity for arithmetic experiences such as counting and determing amounts of time before or since a special event. For example, a pupil's birthday might be marked on the calendar so that all could count the days remaining. Third, the type of weather was recorded. The simple designation of the weather as cloudy, sunny, rainy, clear, or otherwise provided a simple type of science experience. The pupils could, by a review of the record which was kept, form a general idea of the weather throughout any one month.

The pupils usually held a short discussion concerning the assignment of classroom duties. The teacher constructed a chart for the following classroom duties, placing after each the name of the child responsible for the duty.

Take the lunch money
Be the leader
Put away blocks
Put away toys
Water the plants
Call names

It was the duty of the leader to call the names of the pupils as they left for recess or lunch. The last item, "Call the names," was added late in the school year. When changing activities, the pupils having this duty would come to the circle in the front of the room and read the names from the backs of the chairs. As the chairs were frequently rearranged, it was necessary for the child to recognize the names of the other members of the class.

The teacher was on guard to see that the classroom duties were distributed among the class evenly. These duties offered one more opportunity for the pupils to receive recognition for work done in the classroom. The jobs became very important for the pupils and they worked diligently to carry them through.

To aid the pupils in remembering their duties, the teacher posted an appropriate picture next to the printed designation of the duty. This procedure also helped facilitate the recognition of names of the children in the class.

Immediately following work with the calendar and assignment of duties was the daily sharing period. This period gave the pupils an opportunity to come before the class and talk of something having importance for them. The sharing period accomplished several objectives of schooling for this type of pupil. First, this was an additional opportunity for the use of functional oral language. Second, the pupils talked about events that were important to them, providing the teacher an opportunity to gauge what was important and had meaning to the pupils. Third, it offered an opportunity for the other youngsters to ask questions. Fourth, it helped to develop listening skills and classroom courtesies on the part of the audience. Fifth, it provided an opportunity for the teacher to clarify misconceptions held by many of the children concerning their daily experiences. Finally, the pupils had to learn how to communicate to a group of people. The importance of the latter is substantiated by the observation that even after a year of this activity many of the class members were still directing most of their comments toward the teacher rather than the class group.

The program of morning exercises was continued essentially unchanged during the second year of the project. Each morning during the opening exercises, the daily helpers chart was used. The list of the various duties was printed on the board and beside each, a child's name. Duties included were: clock, calendar, lunch money, line leader, waste baskets, paints, ropes, and balls. At times the children's first names were printed beside the various duties. Occasionally, last name or full names were used. It was expected that when the children came into the room in the morning they would read the list of helpers and be ready to read their names when the time came. The following sequence of activities illustrates the usual procedure during the second year of the project: The clock helper was the first to come to the front of the room. After reading his name, he manipulated the hands of the cardboard clock to correspond with the hands of the wall clock. He then selected another child to tell where the long hand and the short hand were pointing and to give the correct time. Immediately following the clock work, the calendar helper came to the front of the room, and read his name from the board. After marking the calendar correctly, this helper was encouraged to ask questions of the other pupils concerning the calendar. Questions were of the type: "What is the name of the month?", "What is the name of the day?", "How many days have gone by this month?", "What are special days in the month?", "How many days are there in this month?". The remaining duties, such as the collection of lunch money, the designation of the line leader, and other similar items, were then treated in order. At the beginning of the year it was necessary for the teacher to direct and guide the group through a careful reading of the helpers chart but as the year progressed most of the children were able to follow through on their own, reading their names and their assignments.

The procedure of morning exercises, as described in the paragraphs above, does not differ materially from that in common use in kindergartens and first grades. There appears to be no reason why it should. The items which the children mentioned spontaneously in front of the group were much like items mentioned by normal kindergarten and first grade children. The quality of expression on the part of the pupils was perhaps somewhat poorer than might have been expected with a first grade. This fact, by itself, would indicate the necessity of providing a period similar to this for mentally retarded children. The quality of expression by the pupils improved remarkedly during the two year period. It may be inferred that at least part of this increase was due to provision for such a period in the daily schedule.

LANGUAGE AND READING

It was recognized at the outset of the project that a strong program in language improvement must be a program that teaches language through the various activities carried on in other areas of the curriculum. The major attempts throughout the two-year period to provide stimulation and application of language appeared in five groups of activities:

1. The Daily Sharing Period

As described in a previous section, this period had a functional role in developing spoken language ability. Additional details concerning its application with the youngest class were given on page 25.

2. Reading and Discussing Stories

The teacher read and discussed many stories with the pupils. At times these were directly related to a unit being taught, but often they were for the purpose of providing general information, stimulation, or were read simply because they were engaging. The pupils became intensely interested in many of these stories and frequently requested them to be reread.

3. Dramatization and Interpretation

Finger plays, stories, and music afforded many opportunities for the development of language through dramatization and interpretation. Discussions were necessary for the pupils to decide how they would dramatize a story: how many children would be needed to fill the parts; what articles were necessary; when certain characters would enter the scene, and so on. In this way natural self-expression became a part of the activity. As was true in the case of stories read by the teacher, the pupils frequently requested to dramatize a story over and over again.

4. Films

Films were shown to the class periodically. It was felt that a film did not need to be directly related to any curricular activity in order to be used in the program. Actually, however, the vast majority of films used were related to topics encountered in other studies. It was our opinion that films could be used to provide vicarious experiences that would give the pupils something to talk about, thus stimulating the use of language. In addition, written language activities, such as issuing an invitation for another class to share the viewing of the film, frequently resulted from their use.

5. Opportunities Throughout the Day

There was ample opportunity throughout the school day for the pupils to use communication. Free play period is perhaps the best example. During free play the teacher would move about the room visiting with the youngsters. Equally important, the pupils would communicate with each other in a setting which was for them free and natural. Not infrequently several pupils would confer in order to make decisions concerning what they should do during these periods. Not only was communication involved, but other complex skills of interpersonal relationships --being able to adjust to the wishes of others--were needed as well.

The five areas treated above were carried through both years of the project. It is important to note two general points with regard to them: (1) The pupils were given free range in expressing themselves in the sharing time and during free play--comments were accepted as they were verbalized, whether they were hostile stories, imaginative story telling, or realistic descriptions of experiences; and (2) It was possible to improve the quality of language expression through such activities; that is, as work progressed, the pupils were able to taken upon themselves more complex language tasks. For example, during the second year, the pupils were often given the opportunity to tell filmstrip stories in their own words. Simple story films were shown without benefit of the sound track reproduction and the children encouraged to tell their own stories of what happened. Also, rudimentary ideas about a sentence, the use of the period, and the beginning capital letter of a sentence were discussed in connection with stories written on the board by the teacher. To be sure, the majority of the children were not ready to write their own stories on the board by the end of the project, but all were able to assist the class in the composition of imaginative and experience chart stories.

An organized program in reading readiness was begun early in the first school year. Skill in listening and following directions received immediate attention. Initially, the pupils needed considerable specific instruction in these skills. The first major concern was with teaching the children to follow a story or event through the proper sequential arrangement. Pupil response to this type of work, as well as to work in following directions, came very slowly. At first, they seemed unable to receive and follow directions independently, and it was necessary to give individual assistance. Pupils would either wait for individual assistance before attempting a task or would go ahead scribbling or coloring in a random fashion. Soon it was necessary to establish the policy that before the pupils were allowed to work independently at an activity, the directions had to have been carefully explained to the class as a group. Verbal directions were given, sample exercise demonstrated at the felt board and at the chalk board, and each child was given a chance to work an example while the teacher was at hand to offer any necessary correction, suggestion, or encouragement. Often the pupils were so anxious to begin a particular task that they would not attend to the directions. They would attempt to achieve the goal before they realized that certain steps were necessary in order to gain the desired goal. This resulted inevitably in an end product that was something less than the desired result.

Even though progress in the area of following directions was comparatively slow at first, most of the pupils eventually made great strides. One of the most striking applications of this progress was noted in the administration of achievement tests in the fall and again in the spring of the project's first year. During the fall testing, many of the pupils marked answers as if at random, or marked all responses available, or scribbled on the test items. In contrast, the spring testing saw all but one or two of the pupils following the administration procedure satisfactorily.

After initial work in developing listening skills and ability to follow directions, the major emphasis of instruction in reading readiness was placed upon visual and auditory discrimination. Visual discrimination work began with the learning of children's names. The teacher also constructed work sheets to teach the concept of likenesses and differences between objects, figures, and symbols. The discrimination necessary for the first of these exercises was gross, but as the pupil's skill in discrimination increased, the items were made increasingly difficult, progressively bearing a closer relationship to the type of discrimination necessary for the actual reading process.

The felt board was extremely useful in teaching many of the aforementioned skills, and also facilitated the introduction of color words. The colors red, black, brown, blue, yellow, green, orange, and purple were learned by the pupils. During the second semester of the first year each of the first ten number words was presented.

As new words were presented, flash cards were used in a game situation in order to provide repetition. The pupils appeared to enjoy competition utilizing the flash cards. They became extremely interested in these activities even to the point that it was not uncommon for them to work on word recognition during their free activity time.

The skills of auditory discrimination proved to be the area in which the pupils needed the most intensive instruction. The first phase of the work was concerned with broad general listening skills. Records such as "Sounds Around Us" encouraged the pupils to recognize the sound being reproduced, such as a milk man putting milk at a doorstep, the rain, and other common sounds. The various "Noisy Books" published by Harper Brothers were also very useful, for with these books the pupils had to decide what they could hear, how it sounded, and what they could not hear.

About mid-October of the first year, systematic work with initial consonants was begun, but later postponed because of difficulty until after the Christmas holidays. The teacher used pictures clipped from magazines as the basic material. A dozen or so pictures representing each initial consonant were mounted on construction paper. As a particular initial consonant was introduced, these pictures were shown to the youngsters, each time with an emphasis upon the initial consonant. Activities designed to distinguish the beginning sound that was different in a series were also attempted, but with only partial success. Several pupils in the class were still unable to distinguish initial consonants at the conclusion of the first year.

Work was attempted with rhyming words, mostly through finger plays. We found that it was extremely difficult for these children to differentiate between rhyming words and initial consonants. Thus the instruction in these two skills had to be separated in time by several days. Even then many of the pupils confused the two skills.

Many activities in science and social studies involved experience charts specifically designed for reading experiences. There were summaries or descriptions of something the pupils had done, letters of appreciation and notes written home to request specific articles needed for a school activity. It was with such charts that instruction in visual discrimination could be coupled with instruction in auditory discrimination. The use of experience charts will be described in somewhat more detail in later sections.

After a period of reviewing readiness materials at the beginning of the second year, the pupils were gradually introduced to the story characters in the Scott, Foresman Reading Series. Pictures, discussions, auditory discrimination exercises. and other activities were used to provide purposeful learning situations. In the same way, the vocabulary words included in the first pre-primer of the series were slowly introduced. These words were used in stories written by the entire group to accompany story pictures placed in correct sequence. The story pictures from the reading readiness book were cut out, studied, and discussed before being placed in correct story and number sequence. After a set of pictures was arranged, the group made up a story so that each part of the story went with a specific picture in the sequence. The completed story was then duplicated on four separate pages. Each child was given a copy of the story and four pictures to arrange and paste in correct sequence. The pages were stapled together as a booklet which the class read and discussed. Upon completing three or four of these sequence stories using the vocabulary covered in the first pre-primer, the entire group then read the pre-primer itself.

When the first pre-primer had been completed by the class, there was a division of pupils into two reading groups. The more able readers continued through the pre-primers, the slower readers were introduced to a new pre-primer from the Ginn Series. With the latter, a great deal of drill in all types of readiness activities was used. The forty to forty-five minute reading period was so divided that each group participated in guided reading and independent desk work daily.

At least once a week the two reading groups worked together for the entire period. During this time, stories were written by the class, booklets made, and word games such as "Word Bird" were played. For the latter, words were printed on construction paper feathers. If the child could correctly read the word on a feather, he pinned it on a large turkey. Drill on auditory discrimination of beginning consonant sounds and rhyming words was also continued throughout the year.

SOCIAL STUDIES AND SCIENCE

When selecting learning experiences for social studies and science with the youngest group, an attempt was made to find topics which would be stimulating and informative for educable mentally retarded children. It was indeed encouraging to note the interest exhibited by the pupils toward social studies and science and the ability of many of the children to grasp some meaningful ideas. As a new unit was introduced, the pupils became actively interested in the subject and pursued the work eagerly. It should be understood that considerable planning by the teacher was necessitated, for it was not by chance that the interest was gained.

Teacher observation offered may instances supporting the contention that the class as a whole profited from the instruction in both social studies and science. As one example, during the unit concerning seeds, some of the children noticed one day that the plants were growing toward the window and questioned why. Later during the same unit, pupils observed that the plants appeared withered on a Monday morning, but in a short time after being watered appeared to revive. In both cases, it was clear that observation abilities had progressed beyond those exhibited earlier in the school year.

A complete listing of the several units taught during the two years of the project is included in the Composite Instructional Pattern. As can be seen by consulting that list, the topics selected were close to the out-of-school experiences of the pupils: plants, work of various members of the home and community, pets, farm animals, means of transportation, body care, and the like. Much may also be gathered from the list concerning major means of unit development. It may be seen that much information was given by the teacher, either orally or by reading from books, that there was great reliance upon field trips for gaining first-hand impressions and facts, and that class discussion was used frequently. Special mention needs to be made concerning the use of experience charts in these two content areas, however. The experience chart was the way in which class records were kept; it also provided excellent supplementary reading experiences. Without attempting to supply comment regarding methods employed, the following is given as an example of the type of experience reading chart kept during the unit on seeds in the first year of the project.

APRIL 9:
We watered the pots.
We didn't see any plants growing.
We put the name of the seed on each pot.

APRIL 10:
We planted more mixed flower seeds.
No plants yet.
The sun and water will help the seeds grow.

APRIL 14:
We saw the radish growing.
We saw two little green leaves.
The plant grew from the food in the seed.
It took six days.

APRIL 15:
Today we see the pumpkin growing.
We pulled up a little plant.
We found the seed covering.
Roots grew down.
Sprout with leaves grew up.

APRIL 16:
The pumpkin is the biggest.
The radish is growing.
We see the beans coming up, but no leaves yet.
We planted corn.

APRIL 17:
The hollyhock popped up.
We see leaves on the beans.
The pumpkin is big, with more leaves.
The radish is getting bigger.

The value of such experience reading charts, both as a convenient record to be used throughout the study and as a source for teaching how to read, is readily apparent.

In all, the work in social studies attempted to instill ideas about the world in which the pupils were living and to provide experiences through which the pupils could learn social skills. There were ample opportunities to develop the latter without neglecting the former. Naturally, those units which were primarily science had as their main goals the gathering of simple scientific ideas.

ARITHMETIC

Arithmetic experiences were noted as being prominent in the opening exercises discussed on pages 24 and 26. It is obvious that activities such as taking attendance and counting the number of days remaining until an event occur frequently in the school year. However important and useful such experiences are in instruction, they are far from being systematic and consistent. It was assumed at the beginning of the project that every worthwhile opportunity for the development of arithmetic ideas incidentally would be grasped. At the same time, it was deemed necessary to provide consideration of arithmetic concepts systematically. The complete outline of the developmental program in arithmetic may be found in the Composite Instructional Pattern previously presented. The purpose of this section is thus one of providing details of method used with this younger class.

The teacher constructed, prior to the first day of school, a large oak tag chart containing fifteen rectangles, each rectangle bearing the name of a child. It was suggested during the initial arithmetic lesson that each child bring "one" of something to be placed on the chart. Soon each child had something on the chart--something that he could see, touch, and count. Class consideration of the chart was made daily during the first week of school. During the second week of school another chart was introduced, this time requiring the pupils to bring "two" of something for the chart. This procedure of using a chart was continued through the introduction of numbers through ten. Pupils brought such articles as sticks, buttons, leaves, rocks, and small reflectors for these charts. By the time that the number seven was introduced, the pupils no longer brought articles for the charts, but made various things to place upon them. Initially, a new chart was introduced each week; however, pupil progress became slower, and the procedure of introducing a new chart only when the current chart had been mastered was initiated. For example, the chart used to introduce the concept of "five" could not be presented until well past the middle of the second month of school.

Counting at the felt board constituted a second major activity during the early weeks of school. Number symbols were introduced early in order to initiate association between the object and the symbol which represented the object. After several symbols had been introduced and mastered, the pupils would place under each symbol the correct number of objects, or conversely, the correct symbol under or above the number of objects.

Teacher-constructed worksheets formed a third part of the instructional program in arithmetic. Such work corresponded with the work being done at the felt board; in fact, the instructions at the felt board were considered to be a preparation for the work included on the worksheet. In the beginning, the worksheets consisted of approximately six or eight rectangles per page, with one or two pictures accompanying each rectangle. The pupils were instructed to circle the correct number of the choices presented. As proficiency was gained, the task was made more difficult: more choices were offered, or, instead of having to choose a specific number, the pupils would provide the correct numbers themselves. Variety was also gained by having pupils match objects with symbols by drawing a line from the symbol to the appropriate number of objects on the opposite side of the page.

As was to be expected, mastery of arithmetic concepts by the pupils required a great deal of meaningful repetition. This repetition did not, at least outwardly, become boring to the pupils. They seemed to enjoy participating in the same type of activity, with minor variations, for several consecutive days without evidencing tiredness or boredom. In fact, this repetition appeared to serve as an additional motivation, for the children had some rather concrete evidence that they were improving. It was a rewarding experience for the pupils to achieve a "very good" on their papers and they would work diligently to achieve this goal.

A device which the teacher found to be most appropriate, and one which was used consistently, was the "number rite" made by the Judy Company. This is composed of a set of ten blocks with symbols and patterns representing the symbols. The patterns consist of holes into which pegs may be placed. Each block has grooved edges so that the blocks will fit together only in the proper sequential order. Initially, the pupils were called upon to select the "three" block or the "two" block. At this stage of development, the children had to count the pegs or blocks to see that they were at the proper number. Tasks were slowly increased in difficulty until ultimately addition and subtraction were used: "select the block that is one more than six" or "select the block that is one less than four," and so on.

Other arithmetic materials used in the instructional program included counting sticks, blocks, discs, toy telephone, toy mail box, finger plays, hundreds chart, measuring cups, and measuring spoons. The use of these materials can not be described in detail because of space limitations. In general, it is sufficient to say that each type of material made a distinct contribution to the instructional program.

The second year of the arithmetic program continued and built upon many of the methods developed during the first year. A few of the more prominent aspects of the school year are noted below.

Counting

The pupils counted from a number chart by 1's, 2's, 5's and 10's. Each child would take a turn sitting in front of the group with his back to the number chart, counting as far as possible without error. At times, concrete objects were counted and their number value written on the board. Felt objects were counted on the felt board, lunch money was counted daily, and many, many other materials used in the classroom served as objects for this part of the program.

Various games were devised by using flash cards and the discs. The use of long rectangular egg cartons and the discs proved to be an excellent way for helping the pupils count by 2's with meaning. Pennies were also helpful. Pennies placed in rows of ten not only assisted in counting by tens, but also helped develop an understanding of number placement and money values.

Number Recognition

Often number recognition was combined with practice in number writing. The pupils would take turns recognizing number flashcards. After correctly reading a flashcard, they would draw the appropriate number of marks or pictures on the board. Sometimes the opportunities for recognition and participation were given to more children by having one child recognize the number, one draw pictures showing how many the number would be, and still another write the number symbol on the board.

Another recognition game used was that of arranging number cards on a pocket chart. These cards would cover sequence of fourteen or fifteen numbers, depending upon how many pupils were present. The cards were first shuffled and passed around the class. Beginning with a designated number, the cards were brought to the pocket chart in correct order by the pupils. Often the class would count as the cards were brought to the chart. These number cards were left in the pocket chart and a second set of cards passed out. These were dotted cards which corresponded to the number cards already presented on the pocket chart. Each child counted the number of dots on the card he had selected. When his turn came, he matched his dotted card with the correct number card in the pocket chart. At times the whole class counted with individual children in order to help them determine the number of dots.

"Scramble" was another game the pupils played with the number cards. Once the cards were placed in correct order on the pocket chart, the pupils hid their eyes while a member of the class or the teacher scrambled the numbers. The pupils then took turns unscrambling the numbers.

Number Placement

Number placement was introduced as an aid to number recognition. When learning about the placement and value of "tens" and "ones," the pupils manipulated bundles of sticks, stacks of plastic discs and pennies, and drew pictures of boxes of ten sticks with single sticks outside to represent the "ones." "Mrs. Hen and Her Eggs" was a game the children particularly enjoyed. This game was designed to assist the pupils in recognizing the numbers and their values according to tens and ones. A large picture of Mrs. Hen was placed on one of the front bulletin boards. Paper construction eggs were made. A number was printed on the front of each egg and a number picture using tens and ones placed on the back. The pupils took turns selecting an egg from a large envelope. After calling the name of the number on the front of the egg, they told the class how many tens and ones were represented by the number. To check the answer, the egg was turned over and the class counted the boxes of tens and ones marks.

Number Processes

Addition and subtraction facts were introduced by the use of concrete objects. The pupils particularly enjoyed using the plastic discs to work addition and subtraction problems with the numbers one through ten. Finger plays were also used in developing basic concepts about addition and subtraction. After the development of the basic concepts, oral problems following from the games, "Tell a Number Story" and "Draw a Number Story" came from the pupils. The signs for addition and subtraction, as well as other practice exercises, came after the understanding of the processes had been gained through finger plays, drawing games, and games with felt objects. When the pupils were ready to drill with number facts flashcards, they were always allowed to use "checkers" such as plastic discs, pennies, or other objects if they so wished.

Number Terms

A definite part of the arithmetic program was intended to familiarize the pupils with number terms and their meanings. Objects, pictures, numbers, and even the children themselves were used to develop meanings for "large and small," "little and big," "more and less," and the like. Situations for class choice activities for free time or recess provided an excellent opportunity to develop many of these concepts.

Money values were studied at the time when the "Lunch Money Helper" checked the envelop daily; when use was made of flash cards constructed of real money attached to oak tag by plastic tape; and when the pupils purchased items from their play store by the use of real money.

Opportunities for learning the most-used standard measures arose largely during class projects. Some of these experiences were: (1) Using the quart and gallon bottles to mix Kool-Aid for the Valentine party; (2) Using the cup and half-cup to mix Jello for the party; (3) Using the half-cup to mix dye for Easter eggs; (4) Using the tablespoon, teaspoon, cup, and half-cup to make bread and cookies; (5) Buying ingredients from the store; (6) Using the yardstick to measure the number of inches covered during a broad jump game; (7) Keeping a daily calendar by marking the weeks; and (8) Using a clock with the assistance of a "clock helper" to determine the hour or the number of minutes past or to the hour.

ART

A few general comments may be in order in the way of interpreting the notations concerning art activites. Art work was usually correlated directly with work in other areas Certainly in particular units or projects in science or social studies this was evident. Crayolas particularly were used as a direct part of the reading program: as color words were introduced, worksheets were used to reinforce the meaning. This type of work (worksheets for coloring) is frequently frowned upon. However, we found that here was something that the pupils enjoyed doing and something from which educational value was derived. Primarily the value lay in providing repetition for words and colors. There was, in addition, a reward for the pupils because the end product was recognizable, even to inquisitive parents. Finally, value in terms of learning to follow directions and to do independent work was apparent. These structured art activities, even though in the minority in number, offered definite values to the pupils.

The class proved to be too immature to utilize clay effectively. Most were content to roll or manipulate the clay rather than to use it in a constructive manner. They tired of clay activities quickly. For these several reasons, this medium was used only infrequently.

As hinted previously, crayon activities formed the single largest type of art experiences. Too, the pupils were most proficient in their use. Non-directed work came in art period and at times in the play activities period.

The use of finger paint was slight. The pupils apparently delighted in the mess created rather than by the challenge to create with the medium. When tried, this medium seemed to foster inattention without carrying with it either real enjoyment or a sense of purpose. The pupils' dissatisfaction with the results is well revealed in the fact that when art work was chosen to take home for parents, finger painting was only type not selected.

Many other types of art work deserve at least brief mention. Some of the major activities were done with tempera paint at the easels or desks. Although few pupils exhibited design in their products at the beginning, practically all could create quite adequate pictures by the close of the project. The one major art project of the year, the construction of scenery and stick puppets for the dramatization of "Peter and the Wolf," utilized tempera paint. Cutting and folding paper, both to patterns and as creative work, became important in seasonal observances and holidays. Chalk drawing was introduced and was eventually preferred by some pupils over the use of crayons. Art construction activities, far too frequent to bear mention at this point, accompanied parties and holiday room decorations.

MUSIC

Music activities for the youngest group included singing of many types of songs, listening activities, and rhythmic activities. Songs utilized included patriotic, popular, and folk music. Work with records formed the bulk of listening activities-careful attention to determine slow and fast parts of the selections, changes in rhythm, and mood of music in terms of skipping, running, walking, and the like. Some story records were also employed, as were records used for dancing and other rhythmic activities.

The Intermediate Class Group (C.A. 8-11)

LANGUAGE AND READING

Some form of language work was provided daily in the classroom schedule. The formal reading period, including reading readiness for some, word attack skills for others, occupied an hour's time each morning. Further reading activities came during the social studies and science periods.

A significant part of the reading readiness work was developed through experience charts relating to excursions and activities carried on with the class. As an element of control, the basic reader vocabulary was checked against vocabulary used in experience stories. The vocabulary common to both received additional attention.

Formal lessons from the basic texts, selected from the Winston series, were planned for Monday and Tuesday of each week. "My Weekly Reader" formed the material for Thursday's reading period. On Friday, reading games were used in order to stimulate interest, to encourage free choice or worthwhile material for leisure time activity, and to strength reading skills. Reading activities were not scheduled for Wednesday so that the class might take advantage of a closely scheduled gymnasium for physical education period.

The class was divided into four reading groups for the first year, but the number was reduced to three during the second year. These groups treated reading levels ranging from pre-reading through second grade. The work at each level included workbooks accompanying the text and supplementary workbooks for semi-independent work.

As was true in the other classes, the planning, discussing, summarizing, writing, and reading of experience charts formed a valuable part of the program of teaching reading.

Spelling period occupied a time of twenty minutes once a week. Four words common to the children's early needs in writing were used as a basic list weekly. They were presented in the following manner: (1) Each was presented individually on the blackboard and pronounced by the teacher; (2) The child looked at it and pronounced the word; (3) He copied it in the air; (4) He closed his eyes and wrote it in the air; (5) He opened his eyes and looked to see if he had spelled it correctly. All words in the list were presented in this way, after which the complete list was once again placed on the blackboard and pronounced. With the blackboard cleared, the words were pronounced in random order for the pupils to write. The list was then reproduced in order that the pupil might check his own words.

In general, handwriting practice occurred in copy work rather than in formal practice sessions. These pupils enjoyed copying the chart stories for their own pleasure. They knew the mechanics of manuscript writing and did well with this type of lesson. Letters of appreciation to hosts for excursions also served as copy material.

The cursive writing style was introduced late in the second year. The pupils were anxious to learn it and did very well after each new presentation. The word see was introduced first because of the simplicity of its strokes. A few days later, the word can was added to the list, then I, run, my, ball, and fun, giving the pupils seventeen letters with which to work. Motor skills were well developed by this time and interest was keen. Many of the major strokes were mastered by the end of the year. The letter form was acceptable in most instances. The new skill was apparently presented at the opportune time for quick mastery.

Sharing time was originally a time for showing trinkets or new articles of clothing such as caps, mittens, or overshoes; of telling about a program that had been viewed on television; or of relating a trip somewhere. Toward the end of the two-year period, however, most of the pupils seemed to have grown more sophisticated and did not care to show trinkets or clothing, but still might tell of going on special trips. Some told fantasy tales, but usually identified them as such, or as dreams. As was to be expected, many of the experiences and objects were of little significance in themselves, serving, rather, the general objectives of the activity and revealing the dearth of meaningful experiences in these children's backgrounds.

SOCIAL STUDIES AND SCIENCE

The social studies program for the first year was largely one of social living. Many of its purposes were actually carried out as part of the science program. The second year, the balance was in favor of the social studies area, with Food as the center of interest. Emphasis in this topic concerned (1) Where some common foods come from, (2) The preparation of common foods for our use, and (3) Becoming aware of the great number of people involved in producing and processing the food we eat. Science concepts were developed during the second year as they appeared in the social studies topics. Actually, during both years the social studies, science, health, and safety were closely interwoven.

Seasonal holidays were capitalized upon for developing acceptable social living concepts and attitudes. Parties for these special days provided subject matter for academic areas. Planning for these parties included organization of ideas, decisions to be made, care in the handling of food and dishes, and the need for washing hands.

The following simple excursions and activities formed a major part of the provision for background experiences: (1) A walk around the block; (2) A weiner roast in the park; (3) A visit to the pet store; (4) Halloween parades and parties; (5) Making applesauce; (6) A visit to the library; (7) A picnic in the park; (8) A visit to the farm; (9) A walk to hear the U.S. Marine band; (10) A visit to the turkey farm; (11) Making instant pudding; (12) A valentine party; (13) A trip to the bakery; (14) A trip to the creamery; (15) Making butter in the classroom; (16) Baking bread in the classroom; (17) A trip to the park to fly kites; and (18) A trip to a classmate's garden.

In planning for the excursions mentioned above, special attention was given to drawing the idea of the need for a trip from class discussion. After making a composite list of what the class wished to find out, safety and courtesy aspects were fully discussed. Following the trip, a class-dictated experience story was usually produced and the study concluded with some sort of culminating activity.

One of the most interesting, and perhaps one of the most meaningful, activities for learning social graces was the Christmas program presented for parents. The pupils learned four line jingles as well as the songs they were to sing with the other two participating classes. A social hour with the parents followed the program presentation.

As a final comment regarding excursion experiences, it was of interest to note that change in conduct between the first trip by car and the last. At first, there was shouting and the calling of uncomplimentary names to passers-by. As the pupils became more accustomed to the trips, they became more settled and mannerly. On the final trip, a picnic, there was need for only a minimum of active supervisory control. A reasonably well organized ball game was in progress most of the time except during the meal.

As mentioned previously, science activities were used as a focal point for the class during the first year of the project because these eight and nine-year-old children showed a natural curiosity about their environment. The theme utilized throughout the year was that of seasonal variations.

An autumn unit began with the opening of school. A class calendar on which daily weather conditions were recorded was made and kept up to date throughout both years. About mid-year, similar individual calendars were introduced. In utilizing the class calendar, the morning temperature was recorded daily. This reading was transferred to a graph for visual clarification of variations. The second year these graphs were observed in order to note the range of temperature for a whole year. A line was then drawn to indicate seasonal change and marked with the appropriate name of the season. The resultant smoothed graph was then extended to show the repetition of this seasonal pattern.

Another comparison that was made was the observation of the larger number of mornings on which the thermometer registered below, at, or just above zero. From this work it was learned that the winter was much colder than the previous winter, when the thermometer registered below zero only once or twice on a school day.

Many outdoor activities characterized the work in science. One worth special mention was the picnic in the spring. Interest in early spring life on land and in ponds was gained by it. Also, it posed a need for an elementary introduction to conservation. Pond water was taken back to school for further study under a microscope. The simple work that followed acquainted the pupils with the use of the microscope and with plants and animals too tiny to be seen without magnification.

Seeing the bread rise in the warming oven at the bakery prompted baking bread at school. This, in turn, lead to subsequent arrangements to visit a creamery where the class saw the large churns, the pasteurizing units, and the bulk packaging of butter for shipment.

In the spring, our kite making and flying project also proved to be a very worthwhile experience. All but the most immature group worked independently at following the construction directions. Those who worked more rapidly assisted the others, giving an excellent opportunity for co-operative working and sharing of experiences. The kites were taken to an open playground where the pupils actually experienced flying the product of their labors.

ARITHMETIC

An understanding of arithmetical processes through familiarity with fundamental concepts rather than memorization of facts was the aim of number work with the intermediate class. Informal number situations were capitalized upon as the occasion for their utilization was appropriate, but main reliance was placed upon the daily thirty-five minute planned period.

Much of the work was done by the group with flannel board, magna-board, peg-board, number line, and blackboard demonstration, along with the manipulation of objects at the pupils' desks. At first, a variety of objects was used for counting in an attempt to avoid stereotyping of ideas, but wooden ice cream spoons in bundles of ten and cardboard discs to represent ones became our standard counting devices.

The early part of the program involved building concepts in number awareness, one-to-one correspondence, number sequence, writing numbers in sequential order, number value, size, and other similar beginning ideas. Later, place value of ones and tens, and eventually addition and subtraction, were developed. In developing the concept of place value for ones and tens, the complete row of objects was placed in a line. The ten ones were then counted out and traded for a bundle of one ten. This bundle representing one ten was placed to the left of the remaining ones and the entire result was read as "one ten and...... ones." The same pattern was used to develop the addition concept, and still later the concept of carrying. In developing the concept of subtraction, the objects representing the minuend were placed in a row and those representing the subtrahend crossed off or removed. An informal look at how multiplication and division could be used was presented during the last few days of the final year.

The first year, a play store was set up with the idea that it would stimulate an awareness of number and money values. It originated as a free play venture. Real money was later introduced in order to motivate the learning of money values. Counting by fives and tens received emphasis at this point, as it did until the close of the project.

Calendar study was motivated and carried on in connection with every event that pointed to a need for such information. This work also motivated the learning of number sequence for those who had not acquired this concept. The thermometer, too, motivated counting by tens and later by twos.

ART

Art was not one of the pronounced talents of these children, but most did enjoy the free expression that it afforded. The media used were clay, crayola, poster paint, finger paint, and paper. Much free expression was permitted and encouraged. Drawings were usually more successful, it developed, if the pupils chose their own topics rather than having the teacher direct them to a certain activity.

Scribble line pictures were tried with the result that the children were fascinated by the designs thus created. Though one crayola etching was completed, it was much too tedious for all but the most mature in the class. Murals and picture interpretations of films were always received enthusiastically.

Representative craft projects were:
(1) A large juice can with holes punched in the bottom and painted, then decorated with

a decal--this was to be used as a silverware drainer; and (2) A vase made from an oddly-shaped jar. It was enameled, then dipped into water on which a contrasting color or paint had been dribbled to make a marbling effect.

As for choice of materials, some pupils enjoyed clay more than finger paint; others preferred the finger paint; still others preferred crayola because of the ease of its use. As the pupils grew older, they seemed to care less for easel painting.

MUSIC

There was no attempt to integrate completely the music program for the intermediate class with other instructional areas. Rather, songs selected from first, second, and third grade song books furnished the basic materials for instruction. Recorded children's songs also served as a pattern for the work. Standard rhythm band instruments were used occasionally, but no rhythm band was tried with the entire group of pupils.

Songs with a lilt or with fast rhythm seemed to appeal most to the pupils. Some of the favorites were circus songs and two selections entitled "Smoke Goes Up the Chimney" and "Joe Only Knew One Word." "Waltz of the Flowers" proved to be excellent for use of scarfs in expressing rhythm. The class especially enjoyed story songs, e.g., "The Ugly Duckling," "Jack and the Beanstalk," and "The Raggletown Singers," which could be dramatized.

SAFETY

A special unit on the topic of safety was not taught, although the topic was given detailed consideration in all plans for trips and during special weeks of the year. The trip to the park for the weiner roast was one of the first events of the school year, so a special discussion on safety, directed toward the rules for riding on buses and cars, was held. The later trip to the library gave additional opportunity for safety work. Throughout both school years there were many events and observances which gave rise to the need for instruction in aspects of safe living.

PHYSICAL EDUCATION

Physical Education for the intermediate class included both indoor and outdoor activities. Major activities were group games, races, relays, singing games, and folk dances. Until the last semester the class was scheduled for only one regular forty-minute gymnasium period weekly. An extended scheduling added twenty minutes weekly.

Representative activities enjoyed by the class were: "Drop the Handerchief," "Three Deep," "Midnight," "Squirrel in the Tree," "Squirrel and Nut," "Airplane Relay," "Overhead Relay," "Farmer in the Dell," and "Shoemaker's Dance," as well as activities utilizing rudimentary softball and basketball skills.

Three boys from the class were sufficiently mature to be included in a regular physical education class. One entered the fourth grade during the first year of the project and was promoted with that class to fifth grade activities the second year; the other two entered the fourth grade class in the fall of the last year of the project. All achieved satisfactorily.

The Advanced Class Group (C.A. 11-13)

LANGUAGE AND READING

Signs, terms used in filling out blanks

--"address," "parents' name," "date of birth," "date," "city and state," "telephone number"--and other functional uses of language formed the bulk of work in this area for the advanced class. Class news stories used for oral reading and for individual seatwork activities were also utilized extensively. An alphabetical list of words used in the stories was kept and used in developing vocabulary practice through flash cards.

In addition to whole-class activities such as recording class experiences and activities, a basal reading program assisted in the development of reading skills sequentially.

Cursive writing was used by those pupils who indicated readiness for it in terms of motivation and motor skill. Direction of the stroke, slant, and proper letter forms were all items receiving attention in the instructional program. The remainder of the class used manuscript style, deriving some assistance from paper alternately ruled and from direct instruction in the use of the straight line and circle, the two basic strokes of the style. Identical standards for writing were set for both groups: remaining on the writing line, proper height of letters, minimal erasures and cross-outs, and proper position of the paper during the writing process.

Opportunities for the development of oral language ability included, of course, the "telling time" discussion groups at noon, general class discussions and planning sessions, and telling the story in reading class. Class standards for oral communication evolved from discussion included speaking in a pleasant voice, looking at those to whom you are speaking, and being sure that the audience could hear clearly.

Written language activities incorporated the writing of notes for permission to attend excursions, writing reading chart stories, organizing and recording plans for an activity, and other similar items. As in the case of oral language, the group set for itself standards of acceptability: clearly worded, easily understood, correct form, and a neat appearance.

SOCIAL STUDIES AND SCIENCE

The development of social skills received emphasis during both years of the project. The first year's work was a broad consideration of how people lived happily, what characteristics were needed to live happily, and the need for acceptance of all types of people.

Stories of great men and women served well as the basis for discussions of outstanding characteristics that might be emulated. For example, the story of Orville and Wilbur Wright's mother showed the value of her advice: "Get it right on paper first and then build from your plan." After several stories illustrating a variety of worthwhile habits, the class began a cumulative chart of superior characteristics which could be referred to throughout the year.

Stories also introduced the class to people who are different from us in how they look, speak, or live. The goal here was to foster an acceptance and understanding of different people, recognizing that they have the same feelings, needs, and desires as we. The type of writing that was found to be best suited for such a purpose is exemplified by such stories as Lois Lenski's Cotton in My Sack and Ride Like an Indian by Henry V. Larom.

The study of people then progressed to a study of community helpers. Visits to various places of occupation throughout the city enabled many skills and ideas from other subject areas to be taught. Almost every excursion necessitated planning discussions, letter writing, organizing thoughts in written form, and use of numbers.

Frequently, too, the construction of charts or pictures illustrating the trip and what was seen were called for.

Above all, it was the intent to use democratic procedures in handling class problems and decisions: In so far as was possible, the decision of the majority of the class was followed; class-constructed rules of conduct and safety for the classroom and playground were utilized; responsibility for classroom tasks was expected from and accepted by the pupils.

In all, the work of the first year was directed toward giving the child an increased understanding of his environment and himself. Activities were based upon the pupil's interpersonal relationships within his family, then his neighborhood, his school, his city, and finally the larger community (state and country) in which he lived.

For the second year of the project, we shifted the emphasis to the pupil's need for knowing how to get from place to place. The large unit was introduced and class interest stimulated through a consideration of the summer vacation experiences concluded just prior to the beginning of school. Previous to the opening of school, the teacher sent letters to each child requesting that he bring pictures, if available, and be prepared to tell the class about what he did or where he went during the summer. Later, the class came to the decision to write letters to the other project staff members making similar requests.

Maps served as a record of the routes taken and places visited by staff members and pupils during the summer. Chart stories written by the pupils told where the people had gone, how they had traveled, and how long it had taken them to make the trips. Out of this work grew an interest in ways that people traveled, the costs of various modes of travel, what kinds of information were needed before making a decision about making a trip, where travel information might be obtained, how arrangements might be made, and a multitude of other pertinent questions.

From this year-long study came related learning concerning knowing addresses, the four sections of the city and its boundaries, and the names of buses and routes for going downtown or to school and home, the process of bus fares and transfers, safety in traveling, figuring costs of transportation, and the like. The actual excursions that the class took served as excellent points of application for much that was learned through the study.

Most of the work which could be classified as science came in the form of seasonal studies. As the seasons changed during the school year, pictures were made to illustrate the changes that the pupils were observing. Full discussions of the differences between seasons and the characteristics of each were carried out. Likewise, human activities associated with the seasons were studied.

ARITHMETIC

The arithmetic work for the oldest class has been noted in a detailed fashion in the Composite Instructional Pattern. The present section thus attempts only to comment upon the major areas rather than presenting more detail.

The oldest class indicated need for further work in order to master various numerical understandings connected with weather and time. Therefore, the procedure of reading the outdoor thermometer daily and recording the temperature was carried through both years. Comparative terms descriptive of the temperature were used constantly. The pupils were encouraged to listen to weather reports on radio and television and to read them in the newspaper. As time concepts were still difficult for many of the pupils, calendar work was also continued. Such rudimentary procedures as naming the months, the year, the holidays, days of the week, and current date were used frequently in instruction. Individual calendars were constructed by the pupils each month, the project including a picture appropriate for the month. Flash cards were used in order to gain mastery of the days of the week.

The ability to tell time correctly proved to be one for which a good deal of work was required for proficiency. The use of a wooden toy clock, frequent reference to time in planning and writing the schedule of activities for the day, and practice sessions with individual cardboard clocks were all ways which were found to be useful in developing the pupils' sense of time.

Much of the arithmetic program concerned the common standard measures which the pupils would use in later daily life. In so far as possible, practice with the measures in the classroom was carried out: rulers were used for measuring and marking in crafts work; liquid measures were necessary when preparing for parties or a cooking activity; amounts were stressed when faced with the problems of purchasing of food for parties.

An understanding and correct figuring of money amounts were also prominent parts of the instructional program in arithmetic. For some pupils, work had to be begun with the most simple understandings: the recognition of coins and their values. Further work concerned writing prices, making change, addition and subtraction with money amounts (including carrying and borrowing), and even more advanced topics such as procedures for using the services of a bank and wise marketing.

INTELLIGENCE TEST RESULTS

The children in the program were selected on the basis of Stanford-Binet Intelligence Scale, Form L. As stated elsewhere, three classes were formed, consisting of fifteen children each with chronological ages of six-seven, eight-nine, ten-twelve years respectively. In addition to the testing done for selection purposes, each child was given the Stanford-Binet test three times during the life of the project; first, during the initial phase of the program; second, at the end of the first year; and third, at the termination of the program after which the children had had two years of instruction in the program. The results of these listings are presented in Tables V-VII. Only scores for those children completing the full two years are reported. All children in the youngest class completed the full two years; thirteen of the middle class completed the two years; and fourteen children of the oldest class completed the two years.Actually, only thirteen children in the oldest class completed the two years in the program; however, one child was transferred to a normal classroom in the city after one and one-half years, thus, scores for this individual were available and used. Of the four children leaving the program, two were transferred to a state school for retarded children; one child's family moved out of town; and one child, as just noted, was transferred to a regular class within the city. Thus, the classes were reasonably stable. It was anticipated at the beginning of the study that more children would leave the program (due to the moving of parents) than actually occurred. Although there were families in the program who moved several times during the two years, they moved within the city.

As may be seen from the results, the mean IQ, at the start of the program, of the six-seven year old children was 66.9 and at the termination of the investigation, the mean IQ score for this group of children was 72.1, an increase of approximately five IQ points. It may also be noted that this increase was obtained during the first year of the program, with the gain being stable during the second year of the study. The mean IQ scores of the two older groups of children were relatively stable throughout the two years.

It should be noted that all of these children were tested by the same examiner on each administration of the test; thus, differences in administration should be negligible. The examiner was careful during each administration of the test to record responses of the children as nearly verbatim as possible. It was interesting to note the reaction of these children to the testing. Almost without exception, the children in these classes seemed to enjoy being tested. Whenever the examiner entered the room, most all hands of the children were up indicating their eagerness to go with the examiner, and several children could hardly wait their turn. This seemed to be a general reaction of the children regardless of the nature of the request; whether it be for individual therapy or testing or speech, the children were seemingly eager for the extra attention. This same reaction was noted upon the part of the Mason City children when they were being tested. It was only on a rare occasion that it was difficult to get a child to respond once he was with the examiner, although many children became shy and unsure of themselves once in the testing situation. A general impression of the examiner was the wide range of successes of many of the children--necessitating the administration of a wide range of age levels to obtain a ceiling and basal age for many of the youngsters.

TABLE V

STANFORD-BINET RESULTS

FORM L

Cedar Rapids - Youngest Class

Pupil	Birthdate	Date of Test	C.A.	M.A.	IQ	Date of Test	C.A.	M.A.	IQ	Date of Test	C.A.	M.A.	IQ
1	5-27-50	4- 2-57	6-10	5-1	74	4-11-58	7-10	6-3	80	3-18-59	8-10	6-8	75
2	7-14-50	9-12-57	7-2	5-0	70	5-13-58	7-10	6-2	79	3-25-59	8-8	6-2	71
3	11-16-49	5-12-57	7-6	4-7	61	5-13-58	8-6	5-3	62	4- 3-59	9-5	5-7	59
4	7-30-51	4-24-57	5-9	4-1	71	5-19-58	6-10	5-3	77	4- 6-59	7-8	6-4	83
5	1-19-50	4- 2-57	7-2	4-9	66	4-10-58	8-3	5-10	71	3-25-59	9-2	6-8	73
6	2- 4-50	11- 4-57	7-9	4-9	61	5-19-58	8-4	4-9	57	3-23-59	9-2	5-10	64
7	12- 6-50	4- 9-57	6-4	4-9	75	4-14-58	7-4	6-6	89	3-23-59	8-4	6-1	73
8	3-15-51	5- 9-57	6-2	4-4	70	5-13-58	7-2	5-8	79	4- 3-59	8-1	6-8	82
9	8-14-50	11- 4-57	7-3	5-0	69	5-15-58	7-9	5-8	73	4- 6-59	8-8	5-11	68
10	4-29-51	4-11-57	5-11	3-3	55	4-15-58	7-0	4-2	60	4- 1-59	9-0	4-5	56
11	7- 2-51	4-24-57	5-10	3-7	61	4-19-58	6-11	4-9	69	4-10-59	7-9	6-2	80
12	7-12-50	4-24-57	6-8	4-4	65	4-14-58	7-9	6-1	78	4- 8-59	8-9	6-8	76
13	7-18-50	11- 4-57	7-4	6-4	86	5-19-58	7-10	6-2	80	3-18-59	8-8	7-0	81
14	11- 1-50	11- 5-57	7-0	3-10	55	5-15-58	7-6	4-3	57	4- 8-59	8-5	5-9	68
15	4-22-51	4-24-57	6-0	3-11	65	5-19-58	7-1	5-1	72	4- 1-59	7-11	5-9	73
N= 15			M=	M=	M=		M=	M=	M=		M=	M=	M=
			6-9	4-6	66.9		7-7	5-5	72.5		8-7	6-1	72.1

TABLE VI

STANFORD-BINET RESULTS

FORM L

Cedar Rapids - Middle Class

Pupil	Birthdate	Date of Test	C.A.	M.A.	IQ	Date of Test	C.A.	M.A.	IQ	Date of Test	C.A.	M.A.	IQ
1	4-18-48	10-30-57	9-6	6-8	70	5- 8-58	10-1	6-8	66	3-31-59	10-11	7-4	67
2	2- 2-49	5-16-57	8-3	5-9	69	4-17-58	9-2	6-6	71	4- 8-59	10-2	7-4	72
3	9-28-48	10-25-57	9-1	6-4	70	5- 5-58	9-7	6-4	66	3-25-59	10-6	7-0	67
4	2-24-48	10-23-57	9-8	6-4	66	4-30-58	10-2	6-4	62	3-24-59	11-1	6-8	60
5	9-28-49	11- 1-57	8-1	4-8	58	4-29-58	8-11	4-7	51	3-31-59	9-6	4-10	51
6	3- 8-48	10-21-57	9-7	6-4	66	6- 2-58	10-3	6-1	59	4-30-59	11-2	7-4	66
7	9-30-47	10-30-57	10-1	5-10	58	5- 5-58	10-7	5-9	54	3-23-59	11-6	5-10	51
8	2-18-49	10-23-57	8-8	5-0	58	4-28-58	9-2	5-9	63	4- 1-59	10-1	6-8	66
9	12- 2-47	10-24-57	9-11	7-6	76	4-24-58	10-5	7-10	75	4- 7-59	11-4	8-2	72
10	10-22-47	10-24-57	10-0	6-8	67	4-25-58	10-6	7-8	73	4- 3-59	11-5	7-4	64
11	9- 4-48	10-30-57	9-2	5-5	59	5- 6-58	9-8	5-6	57	4- 7-59	10-7	5-0	47
12	4- 3-49	11- 4-57	8-7	5-10	68	5- 5-58	9-1	6-4	70	4- 2-59	10-0	6-10	68
13	3- 4-48	5-14-57	9-2	6-8	73	4-22-58	10-2	7-4	72	4- 9-59	11-1	9-0	81
N = 13			M=	M=	M=		M=	M=	M=		M=	M=	M=
			9-3	6-1	66.0		9-10	6-4	64.5		10-9	6-10	64.0

TABLE VII

STANFORD-BINET RESULTS

FORM L

Cedar Rapids - Oldest Class

Pupil	Birthdate	Date of Test	C.A.	M.A.	IQ	Date of Test	C.A.	M.A.	IQ	Date of Test	C.A.	M.A.	IQ
1	7-20-48	10-14-57	9-3	8-8	72	4-24-58	9-9	7-2	74	1- 1-59	10-8	8-0	75
2	3-12-46	10-14-57	11-7	10-2	88	5- 2-58	12-2	10-6	86	4-27-59	13-2	11-2	85
3	1-11-47	10-15-57	10-8	7-0	66	4-30-58	11-3	6-8	59	4- 6-59	12-2	7-10	64
4	11- 7-47	5- 1-57	9-6	6-6	68	4-14-58	10-5	7-10	75	4- 2-59	11-8	9-4	82
5	5-26-48	10-15-57	9-5	7-8	81	5- 2-58	9-11	8-6	86	3-19-59	10-10	8-10	82
6	6-19-47	10-15-57	10-4	4-9	46	4-29-58	10-10	5-1	47	3-23-59	11-9	5-5	46
7	4-30-46	2-11-57	10-9	7-2	67	4-17-58	12-0	9-4	78	3-26-59	12-11	9-6	74
8	6-22-47	5- -55	7-11	5-11	75	4-18-58	10-10	7-4	68	4-27-59	11-10	8-0	68
9	8-31-47	1-17-57	9-5	7-4	78	4-24-58	10-8	8-2	77	3-31-59	11-7	8-4	72
10	5- 6-46	10-16-57	11-5	6-1	53	5- 5-58	12-0	6-8	56	4- 8-59	12-11	6-4	49
11	9-17-46	10-22-57	11-1	7-10	71	5- 7-58	11-8	8-4	71	4-24-59	12-7	8-10	70
12	5-13-47	10-18-57	10-5	7-2	69	5- 2-58	11-0	7-0	64	5-20-59	12-0	8-2	68
13	2- 7-47	10-22-57	10-9	7-10	73	4-21-58	11-2	8-4	75	4-29-59	12-3	8-8	71
14	6-28-47	11- 6-57	10-4	6-4	61	5- 2-58	10-10	7-2	66	4- 2-59	11-9	7-6	64
N = 14			M=	M=	M=		M=	M=	M=		M=	M=	M=
			10-2	7-2	69.1		11-0	7-9	70.1		12-0	8-3	69.3

READINESS AND ACHIEVEMENT TESTING RESULTS

The Youngest Class

Two standardized readiness tests, the Harrison-Stroud Reading Readiness Profiles and the Metropolitan Readiness Test, were administered several times during the course of the project. The results of testing are presented in a series of tables indicating changes in the number of pupils scoring within specified intervals at each testing.

Table VIII presents a summary of the percentile ranks achieved by the fifteen pupils of the youngest Cedar Rapids class with the Metropolitan Readiness Test.

By use of the table, one may see that there was a general movement toward considerably higher test results during the two-year period. For example, only one pupil scored above the 50th percentile in the original administration of the test. On the final administration, ten pupils were above the same point, most of them considerably higher than the one who had originally been above the half-way mark.

The effect of a summer's absence is also observable, although not to the degree that might have been expected. Between the spring, 1958 testing and the fall, 1958 testing, there was a shifting of only two pupils from the upper half to the lower half of the norms

An additional breakdown of the scores in terms of the categories used by the test publishers to describe potential seems advisable. Table IX presents information organized in such a fashion for both the youngest Cedar Rapids class and the nine matched pupils from the Mason City group. The latter group's scores are reported for the fall, 1957 and Spring, 1959 testings only.

It is also of some interest to inspect separately the areas of reading and number readiness as measured by the Metropolitan. The Tables X and XI separate the two types of readiness results.

It may be observed that the Cedar Rapids class as a whole exhibited a greater fluctuation between categories in the area of arithmetic readiness than in reading readiness: more whole-class improvement was shown between within-year testings and a greater loss indicated over the summer vacation period. Such variance of testing results in the two areas may be a function of the nature of the two types of readiness, one (arithmetic) being much more specific in nature and thereby logically more contingent upon continued exposure in an instructional program than the other.

Results obtained from application of the Harrison-Stroud Reading Readiness Profiles were somewhat less optimistic concerning the pupils' ability to learn to read than were results from the Metropolitan. Table XII presents a summary of the placement of pupils according to types of readers as defined by the test makers. Classifications are defined as follows:

Type I -- Percentile Rank of 60 or Above
in All of the Tests

The pupil having such percentile scores should be placed with the group of pupils who will require no special instruction in any of the specific skills tested other than that which will follow in the regular program of reading instruction. Pupils having such scores will probably become a rapid learning group in reading.

Type II -- Percentile Rank of 40 or Above
in All of the Tests

The pupil having such percentile scores should be placed in a group where he can receive special instruction in those skills for which his percentile scores are below 60. Pupils with such scores will probably become average or slightly above average in reading. Some of the pupils of Type II

TABLE VIII

METROPOLITAN READINESS TEST RESULTS - TOTAL READINESS: YOUNGEST CEDAR RAPIDS CLASS, 1957-1959

Percentile Interval	Number of Pupils Scoring Within the Interval			
	Fall 1957	Spring 1958*	Fall 1958	Spring 1959
90-99				2
80-89		2	1	4
70-79			2	1
60-69		1	2	1
50-59	1	4	1	2
40-49				2
30-39		1	1	
20-29	3	2	3	1
10-19	3	2	3	
1-9	8	2	2	2
N	15	14	15	15

*One pupil was absent and unable to make up the examination

TABLE IX

METROPOLITAN READINESS TEST RESULTS - TOTAL READINESS YOUNGEST CLASSES, 1957-1959

Category	Number of Pupils Scoring Within the Category					
	Fall 1957		Spring 1958	Fall 1958	Spring 1959	
	C.R.	M.C.	C.R.	C.R.	C.R.	M.C.
Superior					2	1
High Normal			2	2	5	5
Average	1		6	5	5	2
Low Normal	8	7	5	6	2	1
Poor Risk	6	2	1	2	1	
N	15	9	14*	15	15	9

*One pupil was absent and unable to make up the test

TABLE X

METROPOLITAN READINESS TEST RESULTS - READING READINESS YOUNGEST CLASSES, 1957-1959

Category	Number of Pupils Scoring Within the Category					
	Fall 1957		Spring 1958	Fall 1958	Spring 1959	
	C.R.	M.C.	C.R.	C.R.	C.R.	M.C.
Superior			2	1	4	1
High Normal	1		3	4	2	5
Average	4		4	3	5	2
Low Normal	5	7	4	4	2	1
Poor Risk	5	2	1	2	2	
N	15	9	14*	15	15	9

*One pupil was absent and unable to make up the test

TABLE XI

METROPOLITAN READINESS TEST RESULTS - NUMBER READINESS YOUNGEST CLASSES, 1957-1959

Category	Number of Pupils Scoring Within the Category					
	Fall 1957		Spring 1958	Fall 1958	Spring 1959	
	C.R.	M.C.	C.R.	C.R.	C.R.	M.C.
Superior					3	4
High Normal			3	3	8	2
Average	2	2	9	4	2	2
Low Normal	8	5	2	8	2	
Poor Risk	5	2				1
N	15	9	14*	15	15	9

*One pupil was absent and unable to make up the test

TABLE XII

HARRISON-STROUD READING READINESS PROFILES RESULTS
YOUNGEST CLASSES, 1957-1959

Classification	Number of Pupils Scoring Within the Classification				
	Fall 1957		Spring 1958	Spring 1959	
	C.R.	M.C.	C.R.	C.R.	M.C.
Type I	0		0	0	
Type II	0		0	4	
Type III	0		2	3	4
Type IV	1	1	4	4	1
Type V	14	6	8	4	2
N	15	7	14*	15	7

*One pupil was absent and unable to make up the test

TABLE XIII

DISTRIBUTION OF GRADE EQUIVALENTS - METROPOLITAN ACHIEVEMENT
YOUNGEST CLASSES, 1959

Grade Equivalent	Number of Pupils Scoring at the Grade Equivalent							
	Word Pictures		Word Recognition		Word Meaning		Numbers	
	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.
2.1 and above		1			1			1
2.0			1			1	1	
1.9			1		1		1	
1.8	1		1		1		2	
1.7			3	1		1		
1.6			2	2	1		1	
1.5	3	1	2	2	1		1	1
1.4	3	3	3	1		1	2	
1.3	6	2		2	1	1		
1.2	1	1	2		2			1
1.1				1	3		2	1
1.0	1	1			2	2	1	
Below Norms					2	3	4	5
N	15	9	15	9	15	9	15	9

may shortly join the rapid learning group. Others may need to join the slower learners of Type III.

Type III -- Percentile Rank of 40 or Above in All But One or Two of the Tests

The pupil having such percentile scores should be placed with the Type II pupils where he will receive careful instruction in all skills which lie below the 60th percentile. The difference between Types II and III is in the amount of instructional emphasis needed in one or two of those skills which tested below the 40th percentile. If these happen to be visual and auditory skills, the pupil may have to be taught by a modified kinesthetic method in building up a sight vocabulary until his visual and auditory powers have been strengthened. Pupils of this type will probably become average or below average in learning to read.

Type IV -- Percentile Rank of 40 or Above in Only One or Two of the Tests

The pupil having such percentile scores should probably have an extended readiness program for a portion of the year in a non-reading group within the first grade. After the extended readiness program and apparent growth in all critical areas (Test 1, 2a and 2b, 4 and 5), he should be retested with the same readiness tests. He should be placed in a regular group for reading instruction after he has shown considerable growth in the critical areas by raising the percentile scores in the tests in which he made scores below 60 in the first testing. After these pupils begin to learn to read, they will probably remain a slow reading group.

Type V -- Percentile Rank of 20 or Below in Four or More of the Tests

The pupil having such percentile scores will probably need another whole year of readiness instruction in kindergarten, a transition grade, or pre-first grade. He should not be placed in the first grade until he has achieved percentile rank which will classify him as Type III or IV.

Progress over the two-year period is again in evidence, although relatively fewer pupils ranked toward the upper limits of the scale employed and more ranked near the lower limits when compared with the Metropolitan results. Judging from the Readiness Profiles, four of the pupils (as opposed to two or three with the Metropolitan) had extremely poor prospects for reading at the close of the project. Nevertheless, total group advancement from testing to testing was clearly indicated.

Near the end of the last year of the project, one other standardized test, the Metropolitan Achievement, Primary I Battery, Form R, was given to the youngest classes. The results of this test are summarized in Table XIII.

The Middle Class

The Harrison-Stroud Reading Readiness Profiles were also used with the middle classroom group. Results of the testing are presented in a manner similar to that used with the youngest class. Table XIV indicates the distribution of test scores for Cedar Rapids pupils with reference to the classification employed by the test publishers.

For the middle class, it was also possible to compare the achievement of certain pupils matched with pupils from the Mason City System. Such a comparison appears in Table XV. The final test scores indicate little difference between the two groups of pupils, although the Cedar Rapids class originally ranked lower as a class.

The Stroud-Hieronymus-McKee Primary Reading Profiles, Level One were also used with the middle class group. The Tables XVI and XVII present data gathered from the use of this instrument.

TABLE XIV

HARRISON-STROUD READING READINESS PROFILES RESULTS
CEDAR RAPIDS MIDDLE CLASS, 1957-1959

Classification	Number of Pupils Scoring Within the Classification		
	Fall 1957	Spring 1958	Spring 1959
Type I			3
Type II	2	1	3
Type III	1	3	4
Type IV	5	1	2
Type V	5	4	1
Absent		4	
N	13	13	13

TABLE XV

COMPARISION OF HARRISON-STROUD READING READINESS PROFILES RESULTS
CEDAR RAPIDS AND MASON CITY - MIDDLE CLASSES, 1957-1959

Classification	Number of Pupils Scoring Within Each Classification			
	Fall 1957		Spring 1959	
	Cedar Rapids	Mason City	Cedar Rapids	Mason City
Type I			3	3
Type II	1	3	1	2
Type III	1	4	2	2
Type IV	3	1	2	
Type V	4	1	1	2
N	9	9	9	9

TABLE XVI

STROUD-HIERONYMUS-MCKEE READING PROFILES, LEVEL ONE RESULTS
CEDAR RAPIDS MIDDLE CLASS, 1957-1959

Percentile Interval	Number of Pupils Scoring Within Each Interval					
	Test 1		Test 2		Composite, Tests 3, 4, 5	
	1957	1959	1957	1959	1957	1959
75-99		1		2		2
50-74	1	1	1	2		1
25-49	1	4	1	1	3	
BN-24	11	7	11	8	10	10
N	13	13	13	13	13	13

Results from administrations of the *Gates Primary Reading* test gave rise to tables of information XVIII and XIX.

It may be observed that a considerable difference appears to exist between the grade equivalents obtained from the *Gates Primary* test and the *Stroud-Hieronymus-McKee Primary Reading Profiles*, keeping in mind that the latter has as its reference point end-of-the-year first graders. The majority of the Cedar Rapids class, for example, scored between the "below norms" classification and the twenty-fifth percentile, seemingly poor achievement; yet on the Gates test a substantial number scored above the middle of the first grade. Such a discrepancy raises the question of test selection, for apparently different tests give rise to quite different results.

Results from the use of the *Metropolitan Achievement Test*, Primary I Battery are presented in Tables XXI, XXII and XXIII.

Oldest Class

The achievement tests used with the oldest class included the *Gates Primary Reading*; *Gates Advanced Primary Reading*; *Stroud-Hieronymus-McKee Reading Profiles, Level One*; *Stroud-Heironymus-McKee Reading Profiles, Level Two*; *Metropolitan Achievement, Primary I*; and *Metropolitan Achievement, Primary II.*

Table XXIV presents the distribution of grade equivalents on the *Gates Primary Reading* test. Following it are indications of comparison with Mason City pupils and the average gain per pupil per year.

Ten pupils from the oldest Cedar Rapids class also completed the *Gates Advanced Primary Reading* test in the fall of 1957 and the spring of 1959. Results from those testings appear in Table XXVI. Data from Mason City were not available for comparison.

Results obtained from the use of the *Stroud-Hieronymus-McKee Reading Profiles, Level One and Level Two* are presented in Tables XXVII and XXVIII. The latter, it will be noted, concerns only a 1959 administration.

Tables XXIX and XXX, presenting the achievement on the *Metropolitan Achievement I* and *Metropolitan Achievement II,* indicate both 1957 and 1959 grade equivalent distributions for the Cedar Rapids group, but only the latter for the Mason City group. Because not all pupils in the Mason City group took the tests in 1957, it was considered more appropriate to use only the 1959 results.

TABLE XVII

COMPARISON OF STROUD-HIERONYMUS-MCKEE PRIMARY READING PROFILES RESULTS CEDAR RAPIDS AND MASON CITY MIDDLE CLASSES

Percentile Interval	Number of Pupils Scoring in Specified Interval											
	Test 1 (Aptitude)				Test 2 (Auditory)				Composite Tests 3, 4, 5			
	Fall '57		Spr. '59		Fall '57		Spr. '59		Fall '57		Spr. '59	
	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.
75-99			1	2			1	2		1	1	2
50-74	1	1	1	2	1	1	1				1	2
25-49			2		1	1	3	4	2	1		2
BN-24	7	7	4	4	6	6	3	2	6	6	6	2
N	8	8	8	8	8	8	8	8	8	8	8	8

TABLE XVIII

DISTRIBUTION OF GRADE EQUIVALENTS-GATES PRIMARY READING TEST CEDAR RAPIDS MIDDLE CLASS, 1957-1959

Grade Equivalent Interval	Number of Pupils Scoring in Specified Interval					
	Word Recognition		Sentence Reading		Paragraph Reading	
	1957	1959	1957	1959	1957	1959
3.0-3.4		3		1		2
2.5-2.9	1		2	2	2	1
2.0-2.4	2	1	1		1	1
1.5-1.9		5	3	9	4	8
1.0-1.4	5	3	7	1	6	1
Below 1.0	5	1				
N	13	13	13	13	13	13

TABLE XIX

COMPARISON OF GATES PRIMARY READING TEST RESULTS CEDAR RAPIDS AND MASON CITY MIDDLE CLASSES 1957-1959

Grade Equivalent Interval	Number of Pupils Scoring in Specified Interval											
	Word Recognition				Sentence Reading				Paragraph Reading			
	1957		1959		1957		1959		1957		1959	
	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.
3.0-3.4		1	2	3		1		2		1	1	2
2.5-2.9	1				1		2	1	1		1	2
2.0-2.4	1	1	1	4	1	1		2	1			1
1.5-1.9		5	3	1	2	3	4	1	3	4	4	2
1.0-1.4	5	1	2		3	2	1	1	2	2	1	
Below 1.0	1											
N	8	8	8	8	7	7	7	7	7	7	7	7

TABLE XX

PROPORTION OF A YEAR'S GROWTH PER PUPIL PER YEAR IN READING GATES PRIMARY READING TEST: MIDDLE CLASSES, 1957-1959

Location	Reading Subtests		
	Word Recognition	Sentence Reading	Paragraph Reading
Cedar Rapids	.25 (N=7)	.20 (N=13)	.22 (N=13)
Mason City	.40 (N=8)	.31 (N=7)	.44 (N=7)

TABLE XXI

DISTRIBUTION OF GRADE EQUIVALENTS-METROPOLITAN ACHIEVEMENT, PRIMARY I CEDAR RAPIDS MIDDLE CLASS, 1957-1959

Grade Equivalent Interval	Number of Pupils Scoring Within Specified Interval							
	Word Pictures		Word Recognition		Word Meaning		Numbers	
	1957	1959	1957	1959	1957	1959	1957	1959
3.0-3.4		1			1	1		2
2.5-2.9	2	3	2	4		2		1
2.0-2.4	1		1		2	3	1	1
1.5-1.9	3	6	2	5	2	2	1	2
1.0-1.4	7	3	8	4	5	4	4	5
Below 1.0					3	1	7	2
N	13	13	13	13	13	13	13	13

TABLE XXII

COMPARISON OF METROPOLITAN ACHIEVEMENT RESULTS CEDAR RAPIDS AND MASON CITY MIDDLE CLASSES, 1957-1959

Grade Equivalent	Number of Pupils Scoring Within the Specified Interval											
	Word Pictures				Word Recognition				Word Meaning			
	1957		1959		1957		1959		1957		1959	
	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.
3.0-3.4		1	1	3				1	1	1	1	3
2.5-2.9	2		3	3	1		3	2			2	4
2.0-2.4	1	2		2	1	1		4	2	1	3	1
1.5-1.9	3	4	3		1	5	2		1	3		
1.0-1.4	2	1	1		4	1	2		3	3	1	
Below 1.0									1			
N	8	8	8	8	7	7	7	7	8	8	8	8

TABLE XXIII

PROPORTION OF A YEAR'S GROWTH PER PUPIL PER YEAR IN ACHIEVEMENT METROPOLITAN ACHIEVEMENT, PRIMARY I, MIDDLE CLASSES, 1957-1959

Location	Achievement Test Subtests*		
	Word Pictures	Word Recognition	Word Meaning
Cedar Rapids	.24 (N=13)	.11 (N=13)	.24 (N=9)
Mason City	.59 (N=8)	.53 (N=7)	.69 (N=8)

*The section regarding number abilities was not included in the Mason City Testing. Therefore, no comparison on this subtest could be made.

TABLE XXIV

DISTRIBUTION OF GRADE EQUIVALENTS: GATES PRIMARY READING TEST CEDAR RAPIDS OLDEST CLASS, 1957-1959

Grade Equivalent Interval	Number of Pupils Scoring Within the Specified Interval					
	Word Recognition		Sentence Reading		Paragraph Reading	
	1957	1959	1957	1959	1957	1959
3.0-3.4	1	3		3	1	3
2.5-2.9		1	2	6	1	3
2.0-2.4	5	6	3	2	4	3
1.5-1.9	3	1	8	2	7	4
1.0-1.4	3	2		1		1
Below 1.0	2	1	1		1	
N	14	14	14	14	14	14

TABLE XXV

COMPARISON OF CEDAR RAPIDS AND MASON CITY CLASSES: OLDEST CLASSES GATES PRIMARY READING TEST, 1957-1959

Grade Equivalent Interval	Number of Pupils Scoring Within the Specified Interval											
	Word Recognition				Sentence Reading				Paragraph Reading			
	1957		1959		1957		1959		1957		1959	
	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.
3.0-3.4			2	2			2	2			2	2
2.5-2.9			1	2			2	2		1	1	1
2.0-2.4	2	2	2	2	3	2	2	4	3	1	1	3
1.5-1.9	2	2	1	2	5	5	1		5	5	3	2
1.0-1.4	3	2	1			1	1			1	1	
Below 1.0	1		1									
N	8	6	8	8	8	8	8	8	8	8	8	8

PROPORTION OF A YEAR'S GROWTH PER PUPIL PER YEAR

	Word Recognition	Sentence Reading	Paragraph Reading
Cedar Rapids	.39 (N=12)	.44 (N=13)	.24 (N=13)
Mason City	.36 (N=8)	.49 (N=8)	.39 (N=8)

TABLE XXVI

DISTRIBUTION OF GRADE EQUIVALENTS: GATES ADVANCED PRIMARY READING TEST OLDEST CEDAR RAPIDS CLASS, 1957-1959

Grade Equivalent Interval	Number of Pupils Scoring Within the Specified Interval			
	Word Recognition		Paragraph Reading	
	1957	1959	1957	1959
3.0 and above		3	1	3
2.5-2.9	1	1	2	5
2.0-2.4	6	3	5	2
1.5-1.9	2	3	2	
1.0-1.4				
Below 1.0	1			
	10	10	10	10

PROPORTION OF A YEAR'S GROWTH PER PUPIL PER YEAR

Word Recognition	Paragraph Reading
.27 (N=9)	.40 (N=10)

TABLE XXVII

ACHIEVEMENT: STROUD-HIERONYMUS-MCKEE READING PROFILES, LEVEL ONE CEDAR RAPIDS AND MASON CITY, OLDEST CLASSES, 1957-1959

Percentile Interval	Number of Pupils Scoring Within Specified Interval											
	Test 1				Test 2				Composite Test 3-5			
	1957		1959		1957		1959		1957		1959	
	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.	C.R.	M.C.
75-99	2	1	5	5		2	2	3			3	2
50-74	3	2	3	4	1	1	3	2	1	2	1	2
25-49	1	3	2		3	2	2	5	3	1	4	5
BN-24	5	5	1	2	7	6	4	1	7	8	3	2
N	11	11	11	11	11	11	11	11	11	11	11	11

TABLE XXVIII

ACHIEVEMENT: STROUD-HIERONYMUS-MCKEE READING PROFILES, LEVEL TWO CEDAR RAPIDS AND MASON CITY, OLDEST CLASSES, 1959

Percentile Interval	Number of Pupils Scoring Within a Specified Interval					
	Test 1		Test 2		Composite Test 3-5	
	Cedar Rapids	Mason City	Cedar Rapids	Mason City	Cedar Rapids	Mason City
75-99	4	1		1		
50-74		2		3	1	
25-49	2	3	5		2	4
BN-24	4	4	5	6	7	6
N	10	10	10	10	10	10

TABLE XXIX

ACHIEVEMENT: METROPOLITAN ACHIEVEMENT I TEST
CEDAR RAPIDS AND MASON CITY OLDEST CLASSES, 1957-1959

Number of Pupils Scoring Within the Specified Interval

Grade Equivalent	Word Pictures			Word Recognition			Word Meaning			Numbers		
	1957	1959		1957	1959		1957	1959		1957	1959	
	C. R.	C. R.	M. C.	C. R.	C. R.	M. C.	C. R.	C. R.	M. C.	C. R.	C. R.	M. C.
4.0-4.5									1		6	1
3.5-3.9		1	1					2	1	1	4	5
3.0-3.4		1			2	2		2	1	1		1
2.5-2.9	1	3	5	2	4	3	2	2	3	2	2	2
2.0-2.4	3	6	3	3	4	3	1	3	3	3		2
1.5-1.9	6	2	2	7	4	3	6	2	2	3		
1.0-1.4	4	1		2			5	3		2	1	
Below Norms										2	1	
N	14	14	11	14	14	11	14	14	11	14	14	11

PROPORTION OF A YEAR'S GROWTH PER PUPIL PER YEAR (CEDAR RAPIDS)

Word Pictures	.36 (N=14)
Word Recognition	.29 (N=14)
Word Meaning	.42 (N=14)
Numbers	1.00 (N=12)

TABLE XXX

ACHIEVEMENT: METROPOLITAN ACHIEVEMENT II TEST
CEDAR RAPIDS AND MASON CITY OLDEST CLASS, 1957-1959

Number of Pupils Scoring Within the Specified Interval

Grade Equivalent Interval	Reading			Word Meaning			Arithmetic Fundamentals			Arithmetic Problems			Spelling		
	1957	1959		1957	1959		1957	1959		1957	1959		1957	1959	
	C.R.	C.R.	M.C.	C.R.	C.R.	M.C.	C.R.	C.R.	M.C.	C.R.	C.R.	M. C.	C.R.	C.R.	M.C.
4.0 and above						1		3	3		2			2	1
3.5-3.9		1	1				1	2	1		1	1		4	
3.0-3.4	1	3	2		3	2	1	1	2		1	2		1	1
2.5-2.9		1	1	1	1	1	2	3	2	4	5	4	2	3	3
2.0-2.4	5	4	6	2	6	4		1	2	4		1	4		2
1.5-1.9	4	1		5		1	6			2	1	1	1		2
1.0-1.4				2		1						1	3		1
N	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

PROPORTION OF A YEAR'S GROWTH PER PUPIL PER YEAR (CEDAR RAPIDS)

Reading	.43 (N=10)
Word Meaning	.61 (N=10)
Arithmetic Fundamentals	.63 (N=10)
Arithmetic Problems	.56 (N=10)
Spelling	1.06 (N=10)

SUMMARY

Chapter 2 has presented both a description of the total instructional plan employed in the three experimental classes of the project and an accounting of the testing results obtained over the two-year period. The former, already in summary form, needs little additional comment. The testing phase of the program, on the other hand, bears further consideration.

The testing results of the project were presented in descriptive form only. Class gains may be seen by consulting the frequency distribution tables. In certain cases (such as the Harrison-Stroud test) descriptive statements may assist in giving meaning to the pupil's classification.

With few exceptions, gains in achievement were slight, perhaps disappointingly so. This may serve to re-emphasize one of the fundamental propositions of special education classes for the educable mentally retarded: That academic achievement as measured by our standardized instruments of today ought not be the sole criterion or even the major criterion applied in assessing the value of such a class. Rather, the cause of academic achievement for the educable mentally retarded beyond a minimal level appears to be a half-lost cause from the beginning. It has long been held that the class for educable mentally retarded pupils should have as its basic concern those fundamental and functional abilities needed for the successful assumption of basic adult responsibilities. Measurement of the acquisition of such abilities is not included in our standardized tests available today. Neither are many of the other items given considerable attention in the curriculum for the mentally retarded. It can be said only that our results indicate extremely slow growth in academic achievement as commonly measured. It would appear that an attempt to give the academic areas greater emphasis than alloted in our program would be to sacrifice those areas of instruction for which achievement is not readily measurable, but which can be seen to be directly applicable to the post-school situation of the mentally retarded child.

One final consideration is due the youngest classes involved in the study. Achievement testing results for these classes gave rise to a generally positive outlook. Teachers' reactions supported the notion that progress with these young children exceeded expectations. Because the youngest groups of children from Cedar Rapids and Mason City are the youngest receiving attention in a special class in the state, they represent a suitable study population in subsequent years. Later observations may show the true value of early identification and placement within a system of special education.

CHAPTER 3:

The Speech and Hearing Program

The complete report resulting from the original testing (see Chapter 1, pp. 13) called attention to the fact that many of the educable mentally retarded children in the project were in dire need of a professionally planned speech program. This was possible only with the employment of a speech and hearing therapist.

INDIVIDUAL AND SMALL GROUP THERAPY

An experienced speech therapist was added to the staff for the second year of the project. She administered further speech and hearing examinations to the pupils during the first month of the second school year of the study. These results, combined with earlier findings, led to the conclusion that twenty children appeared to be likely prospects for speech therapy.

Twenty of the forty-five children participating in the research project received direct speech therapy throughout the final year of the project. The nine pupils exhibiting severe speech problems were seen individually for twenty minute periods twice weekly. The less severe cases met in groups of two for twenty minute periods twice a week.

The speech problems of the children involved in direct therapy were classified as functional articulation defects, with the exception of one child who was classified an organic problem (cleft palate coupled with fluctuating bilateral hearing loss).

During the first therapy period the children were given speech notebooks in which they were to do outside assignments. Worksheets and pictures were inserted in these notebooks, and they were then used as motivational devices to stimulate additional work on the children's articulation problems.

Parent conferences were scheduled to help the parents more fully understand and accept their child's problem. Parents who seemed to have insight into their child's problem and who were interested in helping were given the materials and instructions for working with the child at home. Only a few parents took advantage of this opportunity.

The therapist was unable to use the ear training method advocated by many therapists exclusively due to the fact that most of the children were unable to distinguish between different sounds, or to tell whether a word contained the sound on which they were working. For these children, repetition plus stimulation seemed to be the best method for correcting their speech errors. Pictures and games were used, but no printed material. The tape recorder did not seem to be an effective device in working with most of these children, as they were unable to distinguish between the correct and incorrect sounds. Some of the children in the higher I.Q. range (above 70) were able to profit from ear training, so this method was used to correct their articulation errors. Four children were given general speech stimulation and did not work directly with the therapist on their speech problem. This method was necessary due to the children's lack of vocabulary and their many speech errors. Two of these children seemed unaware of their speech problems in spite of the fact that they had serious articulation errors.

Following are some examples of materials and teaching devices used for speech stimulation:

1. Picture cards for very simple words; top, coat, men, meet, hat and the like.
2. Naming objects in the room.
3. Flannel board stories (having a child tell a story while putting pictures on the flannel board. Most of the children were

unable to do this. They named the objects, but did not tell a story).

4. Telling stories about pictures.

5. Picture lotto games.

6. Cutting pictures of clothes from catalogs and naming them. Also naming them in the order we would dress ourselves.

7. Reading Readiness books for picking out pictures showing likenesses and differences.

8. Putting pictures in the correct sequence.

9. Working on colors-picking out objects in the picture that were the same color.

USE OF AN EXPERIMENTAL METHOD

As previously noted, the ear training method soon proved to be less than satisfactory. An authority in speech pathology and audiology at the State University of Iowa was consulted. He suggested that the use of words might be more profitable than isolated speech sounds for mentally retarded children, as this would provide a meaningful unit in which to present speech consonants. As a result, the following three questions were posed as the focal point for a methodology investigation:

1. Is it possible to decrease articulation errors of educable mentally retarded children by presenting speech consonants in words?

2. Do speech consonants corrected in this manner transfer to other words containing these same speech consonants?

3. Will repetition of these words improve faulty consonant articulation?

It is an established principle that repetition without proper conditions is not conducive to corrective learning. The primary function of a therapist using this method was thus one of stimulating and motivating a child between each presentation of the word.

It was first determined, by an analysis of the results of the Templin Test administration, which consonants were not being articulated correctly by the pupils. When this was completed, the seventeen consonants most frequently causing difficulty were selected and incorporated into thirty-two words containing the consonants in all positions (initial, medial, final). This resulted in a list of words in which the seventeen speech sounds were presented in a total of fifty different positions (there is no final J). It should be noted that some of the words contained more than one speech sound being studied.

Each of the pupils selected for this study was given the thirty-two words as a test. The words including the consonants that a given child could not articulate served as his practice material. Thus, each child had his individual list of words. Each word of each child was articulated three times daily. The consonant was considered as incorrect if two of the three trials were incorrect. It was considered as correct if two of the three trials were successful.

A total of fifteen days of instruction was given to each child. Each day the therapist pronounced the word and asked the child to say the word exactly as the therapist had done. Between each of the three trials each day the correctionist gave encouragement and stimulation. The response for each child was recorded as "correct, " "substituted, " "omitted. " If there were a substitution, the nature of this substitute was recorded. To provide for a check on transfer to other words, an alternate list of words containing the same consonants was administered at the end of of the fifth, tenth, and fifteenth day.

The average daily improvement in the articulation of consonants from the test list is shown in Table XXXI. The percentages were determined by dividing corrected consonants by the original number of errors for each child.

TABLE XXXI

DAILY SPEECH PROGRESS: PER CENT OF ORIGINAL ERRORS CORRECTED

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Per Cent of Correction (Average)	31	44	46	47	56	55	63	69	64	66	69	70	69	67	68

The average percentage of transfer words spoken correctly were: after the fifth day, 42%; after the tenth day, 45%; after the fifteenth day, 46%.

The average number of days on which test consonants were correct when transfer words were correct were: after five days, 3.1; after ten days, 6.9; after fifteen days, 11.1.

The average number of days on which test consonants were correct when transfer words were missed were: after five days, 1.0; after ten days, 2.6; after fifteen days, 3.7.

It may be concluded from this experiment in methodology that the method of therapy described was effective in correcting faulty articulation. Correction came rather early in the experiment, maximum benefit being reached, for all practical purposes, in eight days. Further, the correct consonants did transfer to other words to such an extent as to indicate progress. The method may well be used to supplement other methods of correction which are used with educable mentally retarded children.

TESTING RESULTS

An articulation test consisting of twenty-four consonants, in all three positions, plus all consonant blends was given during September, 1958 and again in May, 1959. The test consisted of pictures representing all consonants and blends in all positions. A total possible score was 100, based on the number of speech errors; thus, the fewer the speech errors made, the lower the score.

The following table indicates the testing results. Five cases in the therapy have been excluded from the summary: one did not take the test; three proved to be patterns of speech for which it was not possible to make an accurate count of errors; one had an incidence of errors so high that it was felt that inclusion of his scores would affect unduly a measure of central tendency for so small an example.

It is of interest to note that all save three of the children made fewer articulation errors following the year of speech instruction. Two children made only slight

TABLE XXXII

ARTICULATION TEST RESULTS: MEAN NUMBER OF INCORRECT SOUNDS 1958-1959

Group	N	September, 1958	May, 1959
Younger (C.A. 7, 8)	6	16.7	9.3
Older (C.A. 9-13)	9	14.8	8.4
Total	15	15.5	8.8

improvement, but the remaining children showed moderate to considerable improvement in the testing situation.

AVERAGE SENTENCE LENGTH

Another aspect of language development investigated was the length of sentences that mentally retarded children used in their communication. To do this, several pictures were used as stimuli for eliciting responses from the children. The pupils were alone with an adult as these various pictures were shown, the adult encouraging the child to describe the pictures. The first fifty responses uttered by the child were then recorded and used as the basis for computing the mean sentence length.

The first testing was done during the months of December, 1957, and January, 1958, and the second during November and December of 1958. Thus, approximately one year elapsed between the first and second administrations of the test. Thirty-five pupils responded sufficiently to enable an analysis of the responses. On the first testing, the responses were recorded in writing as the children verbalized about the pictures; for the second testing the re-

TABLE XXXIII

MEAN LENGTH OF SENTENCE

N	C.A. 1st Testing	Mean Sentence Length (words)	C.A. 2nd Testing	Mean Sentence Length (words)
5	7.0	4.1	8.0	4.2
4	7.5	5.0	8.5	4.7
4	8.0	5.0	9.0	5.1
1	8.5	4.2	9.5	5.1
2	9.0	4.0	10.0	4.8
4	9.5	5.7	10.5	4.9
7	10.0	6.1	11.0	6.4
3	10.5	4.4	11.5	4.3
2	11.0	6.7	12.0	5.5
3	11.5	6.6	12.5	6.1
35				

TEMPLIN'S NORMS

C.A.	Mean Sentence Length
3.0	4.1
3.5	4.7
4.0	5.4
4.5	5.5
5.0	5.7
5.5	---
6.0	6.6
6.5	---
7.0	7.3
8.0	7.6

sponses were recorded with a tape recorder and later transcribed by the examiner.

Table XXXIII shows the mean sentence length of the educable mentally retarded children in our program as compared with the norms of Templin's study.

Striking differences between the group of educable mentally retarded pupils and Templin's standardization group may be observed by consulting the table. In fact, the mentally retarded pupils who were 11 1/2 years old did not reach the mean of seven year old children used in Templin's study. It must be remembered, however, that the number in each group in our study was extremely small. Even with this in mind, our results would indicate a tentative conclusion that the length of sentences used by retarded children is considerably less than that used by normal children of comparable age. It also seems noteworthy that the mean sentence length used by the mentally retarded children did not increase during the year's time between samplings.

SUMMARY

The results of the work have been presented in the preceding pages. In all, it would appear that sufficient evidence has been gathered to support further effort by speech therapists with educable mentally retarded children. The need is surely present and if our tentative conclusions are correct at all, such pupils do indeed profit from instruction in the area.

CHAPTER 4:

Work with Parents

The data shown in Table XXXIV refer to the incidence of various types of social problems present in the homes of the children comprising the project's three classes. They are based upon the judgment of the social worker and concern conditions existent in these families, as she knew them, over a two year period. The table excludes problems which existed prior to this period and for which some solution however temporary had been reached. It also excludes problems which were not fairly well established as existent though there may have been much circumstantial evidence to indicate the likelihood of their presence. It should be emphasized that the table undoubtedly underestimates considerably the problems existent in the families during the two year period. In general, it includes only those which were the most obvious and/or those which the parents shared with the social worker. Those excluded, it might well be argued, are the more insidious and highly emotionally charged ones which the parents understandably found too difficult to face in the presence of a school staff member.

Comparable incidences of certain problems in the male and female parents as shown in the table have little meaning. Differences in problems between male and female parents should also be approached with caution. For example, "low mentality" is shown in the cases of twenty-one mothers and only twelve fathers. The fact that the social worker knew the mothers much better and had many more (and more confidential) contacts with them than with the fathers permitted her more opportunity for observation of the mothers. This fact alone may account somewhat for real but unobserved differences between male and female parents.

In some instances the only father figure represented an amour of the mother (and vice versa) and therefore involved an individual whom the social worker did not learn to know. She could, therefore, make no meaningful judgment about his relationships with the retarded child, so tabulated no data concerning him in Column II.

In general, problems relative to the retarded children's siblings were tabulated in Column III when these problems appeared to be fairly well established facts from repeated and detailed descriptions furnished by the parents and/or from the project's retarded children in either group or individual case work contacts. As in the case of reported parents' problems, it is safe to assume that the true incidence of social problems among these siblings was probably greater than that indicated.

While recognizing obvious limitations to the interpretation of the data concerning problems in the homes, it is also appropriate to note their value. The problems relate, with few exceptions, directly to the educable mentally retarded children in the project. For any one family member column (mother, father, or siblings), the frequency of incidence of a given problem may be thought of as relative to other problems. Granting that certain types of problems of a personal nature are more easily discussed with a social worker than others, such comparisons may still be of value for program planners contemplating social work with families of educable mentally retarded school children.

The largest value of the reported frequencies of problems existent in the homes of these children may lie in the fact that they give credence to an idea long held in the profession, but needing further verification: The real difficulty in ameliorating home

TABLE XXXIV

FREQUENCIES OF KNOWN PROBLEMS EXISTENT IN THE HOMES OF THREE CLASSES OF RETARDED CHILDREN BETWEEN JUNE 1, 1957 AND JUNE 1, 1959

Problems of Other Family Members

I. Mothers (or mother substitutes)	N	N
1. Unrealistic expectations[1]		20
2. Inconsistent handling[1]		21
3. Low mentality		21
4. Rejection[1]		12
5. Inadequate household management[5]		18
a. Financial	13	
b. Re: sanitation	13	
6. Sexual deviations		6
7. Mental health problems[3] and poor social adjustment		25
8. Physical health problems[3]		15
9. Absence from home (temporary or permanent) and/or inappropriate mother substitute		6
10. Neglect[1]		20
a. Physical	11	
b. Emotional	17	
11. Low frustration tolerance[1]		18
Total		182

II. Fathers (or father substitutes)	N	N
1. Unrealistic expectations[1]		24
2. Inconsistent handling[1]		18
3. Low mentality		12
4. Rejection[1]		13
5. Inadequate wage earner[2]		20
a. Chronically unemployed	2	
b. Periodically unemployed	8	
c. Employed but income inadequate	16	
6. Mental health problems with poor social adjustment[3]		24
7. Physical health problems[3]		18
8. Sexual deviations		4
9. Father absent and/or poor father substitute in home[4]		9
10. Neglect[1]		25
a. Physical	6	
b. Emotional	24	
11. Low frustration tolerance[1]		22
Total		189

III. Siblings	Families
1. Unrealistic expectations[1]	7
2. Excessive sibling rivalry	12
3. Low mentality	13
4. Rejection[1]	4
5. Mental health problems with poor social adjustment[3]	18
6. Physical health problems[3]	13
7. Low frustration tolerance	9
Total	76

IV. Family Problems			Families
1. Financial problems			26
a. Inadequate income		20	
b. Mismanagement of income		15	
2. Housing problems			22
a. Lack of sanitation		12	
b. Problem neighborhood		20	
c. Problems in type dwelling		18	
(1) Structural inadequacies	11		
(2) Inadequate privacy	16		
(3) Inadequate furnishings and/or facilities	5		
3. Lack of congeniality between parents or parent substitutes regarding:			23
a. Religion		2	
b. Recreation		8	
c. Child management		22	
d. Financial management		7	
e. Housekeeping standards		3	
f. Extra-family social relationships		14	
g. Education		5	
Total			71

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1. As related to the retarded child in this study.
2. "Adequacy" based upon family's needs.
3. Includes problems moderate to severe, acute (observed during two year period) to chronic.
4. Includes fathers' temporary or permanent absences and those with temporary or permanent father substitutes.
5. As in other comparable instances in this study, this total does not equal the total of sub-topics a and b in that the 18 represents families and a and b represent incidences; e. g., there may be both financial and sanitation problems represented in one family.

conditions for educable mentally retarded children is not so often the need for assistance with a single intensive problem as it is the need for assistance with a whole array of problems. Each problem, taken by itself, is solvable though admittedly sizeable; but when compounded by a whole host of additional problems, each presenting some degree of difficulty, the resulting complex of problems is of tremendous proportions. The project offered to the parents of the children involved some opportunity to discuss, and perhaps begin to attack, family problems. It is apparent after viewing the range of problems existing in the homes that the public schools of today do not generally maintain facilities or personnel designed to accommodate extensive work with parents in this field of service. It is equally apparent that community social services, as presently constituted, can not and have not been able to offer the assistance necessary. The establishment of such a social service system represents a distinct challenge yet to be met adequately.

The frequencies reported in Table XXXIV are naturally a summarization of individual family studies. Space limitations do not permit all to be reported. Three family studies may serve to illustrate the diverse and interwoven nature of the problem indicated in the summary tables and reviewed briefly in the foregoing paragraphs. The names of children involved have been changed in order to preserve anonymity.

Case I

Harold (age 9) was the product of his thrice married mother's second marriage. Although divorced from the father, and since married and divorced, she consorted with Harold's father quite regularly. Although he had residence elsewhere, the former husband visited often. The mother, a large, blonde, attractive woman, was a loud speaking, profane, rash individual of subnormal mentality. She was extremely inconsistent in her handling of Harold. Her seeming over-protection of him was likely representative of veiled rejection.

The family was supported through ADC and from Harold's father's very occasional contributions. During this two year period, the mother divorced her third husband, who was serving a term in one of the state's correctional institutions.

There was no father or father figure actually living in the household during the past two years, as the mother was separated from her third husband at the time the project began. Harold's father was a diabetic, and apparently also an alcoholic. He was employed periodically, had poor mental health and had made an extremely poor social adjustment. His open conflict with the mother, which often reached physical fisticuffs requiring that the police be called in, provided a chaotic kind of environment for Harold and his small brother. Harold had a half brother in his late teens who lived in the household part of the time during the last year of the project. He seemed to be a rather well adjusted boy, but had experienced difficulty finding employment after his graduation from high school about a year before the close of the project.

Prominent family problems included constant bombardment by creditors and the mother's inability to handle the ADC income so as to meet the family's basic needs. They lived in a home of their own in a problem neighborhood, although the home itself seemed quite adequate to the family's needs. Relative to congeniality between Harold's parents, there apparently was none on any score. The father, a dependent, immature alcoholic, seemingly returned to the household as would a child in trouble returning to the fold. This was one of the most chaotic homes represented by the children in our study.

Case II

Paul (age 8) was the child of an attractive, well managing couple who lived in a relatively new home. He was a twin and by far the smallest child in a family of three brothers. Early in this study the mother had some unrealistic expectations of Paul and manifested some inconsistencies in his handling, although neither of these tendencies was severe. After regular attendance at parents' meetings for the two year period, the social worker found difficulty in pointing out any inadequacies in the mother's handling of Paul. The father, who attended parents' meetings rather regularly, too, continued to be quite unrealistic in his estimation of Paul's potentiality and to handle Paul and his brothers quite rigidly and, at times, rashly. Although he had done well in his occupation, he apparently had always felt rather insecure. Although providing for Paul's physical needs very adequately, the father had neglected, and continued to neglect, Paul's emotional needs. He also continued to feel that he did not want to take the time to relate with Paul. The father seemingly felt awkward and ill at ease in expressing love to his children.

The parents and Paul were being seen at the mental health center at the close of the project. Paul's twin brother was a rather poorly adjusted child who was truant from school a good deal and who apparently was as overly aggressive as Paul was lacking in that tendency. There was a good deal of sibling rivalry for the mother's time and approval, although apparently little rivalry for the father's attention. The children seemingly felt at a psychological distance from the father and rather revered him as an authority figure about whom they had some fear.

There were no finanical problems in the family although the mother worked part-time at a local drugstore when there were excessive financial needs in the family.

There was considerable lack of agreement between the parents relative to the children's management, but none of a serious nature in any other area, so far as was known by the social worker. In general, these were intelligent, attractive, and delightful people, though the father did maintain considerable reserve even in his relationships with other adults.

Case III

Judy (age 13) was a very large girl who was the youngest child in a family of three boys and two girls. Her mother had been employed since Judy was a small girl (at which time she was cared for by an older sister) and there was not a very close or positive relationship between them. The mother expected much of Judy in the way of judgment and yet seemingly had spent little time with her helping her to learn to do the things that girls usually learn during their first thirteen years. The mother projected blame onto Judy for some of the latter's uncouthness and made such drastic statements as, "I'll wring her little neck if she does that again" with apparently little empathy or true understanding.

The mother, although most likely having the highest intelligence in the family, was probably in the low normal range. She was rather inadequate at household management, both with regard to finances and sanitation. She apparently had been such a poor manager that it was necessary for her to work in order to "make ends meet," though the father had been continuously employed. It was almost as if Judy had grown up without a mother, so severe had been her neglect, both psychological and physical.

The father, a Parkinson's disease victim, had very low frustration tolerance and apparently Judy and he were in conflict much of the time. Particularly did it irritate him when Judy was not able to sit still for even a few moments. The father apparently related very little with the other family members, was completely exhausted when he returned home from his work at night, and was capable of little more than working in the garden for a short period, then going to bed early. He still whipped the grown sons as well as Judy. This was one of our most chaotic households, with little rhyme or reason about the family's activities, goals, or reasoning.

Judy's adult brothers were, according to the mother, of even lower intelligence than Judy. One was excluded from school and found it very difficult to gain and hold employment. Another brother, fairly recently married, returned home periodically with his newly acquired family. (His wife had a child before this marriage.) Judy's older sister was involved in a marriage which the mother felt was a poor one.

In general, the family had made a poor social adjustment, had low mentality as well as poor mental health, and open conflict between the members was apparently the rule more than the exception. Although their income would certainly be considered adequate to meet their needs, they were in debt most of the time and lived from one pay check to the next. The home, which they owned, was fairly adequate as far as space and privacy were concerned, but it was sparsely furnished and very poorly kept. Apparently the father did not involve himself in the family's managerial problems, only lashed out physically in the event of too much open conflict between any two of the members. He was very dependent upon the mother, would not go anywhere without her and preferred recreation in which only some of the family members were involved, such as fishing. From all appearances Judy had just grown without attention, could fight like a man, and preferred masculine dress. She was very poorly accepted by her peers, was tormented as she attended classes at the Community House and maintained an utterly miserable existence. The mother made promises on numerous occasions to attend parents' meetings if the social worker were to see Judy in individual therapy, but for dozens of "reasons" the mother did not find it possible to follow through on such promises.

GROUP THERAPY WITH PARENTS OF MENTALLY RETARDED CHILDREN

Introduction

At the outset of the project, the idea prevailed that if both need and interest were present, some direct work with parents of project pupils would be attempted. By the time that the social worker had completed the social histories of the pupils, a multiplicity of family problems had been noted. Moreover, in many instances the parents' problems seemed reflected in their children's personality and behavior difficulties. Three major reasons made group meetings appear to be the most feasible means of social work treatment of this large group of parents. First, a case load of forty-five families was much too large for intensive, individual case work. Second, most of the parents who were employed could be seen only during the evening hours. Third, because it was planned that at least two parent groups would be formed, the baby sitting problem (an excuse frequently voiced by parents) would be alleviated if any set of parents chose to attend different groups.

At the time of the social history home visit, the possibility of attending small discussion groups was broached for the parents' consideration. The over-all purpose of the meetings - a joint examination by parents of their marital and parent-child relationships - was described in an effort to elicit the parents' opinion regarding attendance. Numerous reasons and rationalizations for non-attendance were encountered, yet about one third of the parents manifested some interest in the venture.

Organization of Groups

The first two groups were organized on the bases of the parents' social, economic and educational levels and their expressed interest in attending. It was felt that interaction would be facilitated if the members were of similar social background. This appeared especially important after several mothers had indicated that they did not have appropriate clothing to wear to such meetings. Parents of the middle and higher social economic levels were invited to attend the first session, and at this session were asked to determine whether they wanted to attend separately or in couples. It was assumed that they could best judge this matter in light of their individual family circumstances. They were advised that each group would meet once every two weeks at a school centrally located in the city, that the meetings would last one and one-half hours, and that there would be no pre-determined program. The first group meeting was held October 3, 1957. It was from this nucleus that three groups were formed during the 1957-58 school year. An attempt was made to form a fourth group of the least secure parents, but the attempt failed. Meetings were discontinued during summer vacation in 1958 and resumed that fall. Two groups met for a few months during the school year of 1958-59 and then, because of erratic attendance, the two groups were consolidated into one for the remainder of the project.

Attendance

During the first school year, thirty parents (nine fathers and twenty-one mothers) attended from one to thirteen meetings of three separate groups. Seven attended only one meeting. During the 1958-59 school year, twenty parents (seven fathers and thirteen mothers) attended from one to thirteen meetings. Eight parents attended only one meeting.

Table XXXV presents data relative to total attendance during the two year period.

TABLE XXXV

ATTENDANCE AT PARENTS GROUPS: 1957-1959

A. General Data	
1. Total meetings held	70
2. Number of different parents attending	37
3. Total individual parent attendances	258
4. Parent hours spent in meetings	387
5. Average attendance per meeting	3.7
B. Attendance by Classes	
1. Youngest class group	
a. Total different parents attending	13
b. Total parent attendances	151
2. Intermediate class group	
a. Total different parents attending	13
b. Total parent attendances	61
3. Oldest class group	
a. Total different parents attending	11
b. Total parent attendances	46

Methods

The project social worker, who served as the group leader, planned that the sessions would be conducted in the same general way as group therapy. During the first year she used several devices to encourage the parents to direct their thought and attention toward one problem or topic until some group thinking could be elicited. She gave little active direction to the parents in their efforts to evolve themes for discussion. Rather, she reinforced positive discussion such as the examination of the parents' own feelings, relationships of their own behavior to their children's problems, and examination of their own interaction with the group. This relatively passive role of the leader placed on the members direct responsibility for the group process.

Despite the assumption of a passive role, the leader used techniques of reinforcement and non-reinforcement in several ways. For example, when the group members were discussing unproductive topics or involving themselves in superficial or psuedo-intellectural chatter, the leader sat relaxed, unconcerned, almost disinterested, thus demonstrating her lack of involvement in this part of the discussion. On the other hand, when any of the members began to explore tentatively such things as the relationship between his own anxiety and the appearance of problem behavior in the child, the leader assumed a more alert body posture, asked for further clarification of the statement, rephrased the statement, or asked for comments by other members. In this way, in spite of the fact that the leader gave few direct suggestions, she was able to manipulate the group toward productive thought and exchange.

To a lesser degree, two other methods were used--support and intervention. As the group became increasingly involved in self examination, anxiety mounted and, at times, became so high as to interfere with effective group interaction. Relief was then given by the leader. For example, when a general feeling of discouragement pervaded the group relative to their progress or about new problems arising in their children's behavior, the leader would offer direct, but realistic encouragement. She sometimes would articulate awareness of the parents' problems, make some statement relative to the universality of these trying situations, or comment on the fact that progress does not usually manifest itself with constancy but rather with plateaus and even with set backs.

Intervention by the leader was used sparingly; its chief purpose being the avoidance of acting out behavior that might prove embarrassing and detrimental to group unity. Some of the couples in the groups had marital conflict and, stimulated by the general group freedom of expression, occasionally argued openly. When flare-ups grew too severe, the leader interrupted with either a brief expression of support, a question which might stimulate a more benign approach to the problem, a suggested change of topic, or a suggested delay in discussion.

Early in the sessions of each group the leader had reiterated the purpose of the group, explaining that although free discussion was the keynote, there was to be no pressure for individual members to talk.

Note taking by the leader included the names of the parents present, the summarized account of each parent's productions, major themes considered and the level of discussion, indications of group interaction and involvement, and the leader's role. From these notes, narratives were dictated following each meeting.

Topics Discussed

Table XXXVI presents a summary of the frequencies of subjects discussed during the seventy group sessions.

Close inspection of the narrative reports revealed the fact that during the first school year the parents directed most of their attention toward their children and their problems with only isolated references to parents' roles in the development and perpetuation of such problems. During the second school year the frequencies of these two types of approaches reversed, with some sessions being dedicated almost exclusively to the problems of parents. In general, most of the valuable discussion of more fundamental or basic problems appeared to occur among the parents who persisted in fairly regular attendance though the second year.

TABLE XXXVI

FREQUENCIES OF TOPICS DISCUSSED IN PARENTS' MEETINGS, 1957-1959

Topic	Frequency
1. Parents' expressions of hostility	36
2. Children's expressions of hostility	35
3. Children's expressions of, and solicitations of love	27
4. Children's excessive fears	27
5. Children's associations with peers and out-of-family adults	19
6. Children's strivings for independence	18
7. Parents' and children's attitudes toward schools (and education in general)	16
8. Encouraging children to express feelings	16
9. Children and household duties	15
10. Children's eating habits	15
11. Parents' expressions of love toward children	14
12. Parents' and children's attitudes toward, and expectations for, special education	14
13. Self-images in parents and children	14
14. Children's extra-school activities (parties, camp, scouts, etc.)	10
15. Orderliness, cleanliness	7
16. Promises to children	4
17. Children's money (allowances, etc.)	4
18. Retarded children's futures -- vocational, social	4

Stages in the Group Process

Although the same combination of parents seldom attended two consecutive sessions, certain phases were discernible in the group activity. In general, the groups, and the individual parents who continued to attend them, passed through stages marked by (1) anxiety, (2) resistance, (3) self-examination, and (4) self awareness. The initial phase of the groups was one marked by insecurity about the group treatment itself, a lack of any feeling of group unity, and the dependence upon the leader as an authority figure. This type of reaction continued to a small degree with a few of the parents, although there was ample evidence in the sessions that the leader did not plan to give advice.

The second phase was characterized by mild hostility and resistance, no doubt sparked by the groups' frustration over the leader's passivity. This hostility was often expressed in subtle ways. With the resistance to self examination came more generalized discussion about the children, some projections of blame onto the teacher or schools, or digression to totally unrelated subjects. Before long, individual parents began to make tentative references to their own involvement in their children's difficulties. Discussion of this sort created some anxiety among the parents and they usually returned to the more comfortable discussion of the children. This fluctuation between self examination and retreat into safer topics continued for many meetings.

During the third phase, most parents had discontinued looking to the leader for answers and had begun to become supportive or even kindly critical of each other. Identification with the group at this point allowed the members to accept direct attacks upon their attitudes, attacks which they would not have accepted from the leader. For example, after one father had spoken somewhat derogatorily of his wife's household management during several meetings, a mother asked him, "By any chance do you feel superior to your wife?" After some thought, the father answered that he "probably did" though he "had never thought of it that way before!" Several weeks later this father reported in the group that after he had been alerted to this possibility he had noted evidence on several occasions that he did feel superior to his wife, and that he honestly believed that there was no realistic basis for such.

The fourth phase began with behavioral change and insight. As the parents who remained in the groups progressed they found their attitudes relaxing and changing almost inadvertently. Usually in fact, behavioral changes were occuring before any insight was expressed in the group. All of these stages were interrelated and overlapping characteristics of each phase were evident in every other. In this last stage the leader was able to take a somewhat more active role at times to point out certain aspects of the group process. It was at this point that the parents appeared to be receiving maximum benefits from this group experience.

Evaluation

This two year experiment with small discussion groups for parents pointed to some significant facts about the expectations to be held relative to such groups. It appears that the typical parent of a mentally retarded child is too insecure to attend a heterogeneous group for even a trial period. It seems quite conceivable that many of these parents felt out of place in a mixed social situation: they were stepping out of their normal cultural setting when attending school functions. Not only did the majority of parents of pupils attending the project classes see fit not to attend the parent meetings, they were also notably absent from other school functions, such as PTA Meetings. Another possible factor in the parents' non-participation was that some did not recognize and/or accept their child's retardation and, therefore, did not wish to be identified with special classes for educable mentally retarded children. Ironically, these parents were the ones we most ardently desired to reach, yet they were the most inaccessible.

Although it would appear that only a small percentage of the parents were directly assisted through this type of treatment, the pieces of success were numerous enough and of such a degree as to warrant cautious optimism. In fact, all thirteen parents who attended ten or more meetings appeared to *have procured* some perceptible benefits. One family, through this experience (according to the mother), had been able to move on toward continued treatment at the local mental health center. Another mother was seriously considering a similar type of treatment in order to secure help for the father, who seemingly had only begun to accept responsibility for his children's problems. One set of parents were regular group attendants during the first year and gained sufficient insight into their problems so that they recognized the relationship with their retarded son as comprising the main contribution which they could make in his behalf. One mother was a regular attendant at these meetings and was emphatic as to the benefits which they had provided. Another couple expressed their appreciation of the group meetings by indicating that they had been helped to understand their seriously retarded, brain-injured daughter, and to resolve partially their feelings about her eventual commitment.

Chapter 5:

Individual and Group Therapy with Pupils

PLAY THERAPY WITH A SELECTED GROUP OF MENTALLY RETARDED CHILDREN

The Project's Concept of Play Therapy

Early in the first year of the project, extended consideration was given to the general problem of meeting the children's emotional needs within the school setting. It had been fully expected that this would prove to be a problem area for the entire group of children, and as reports of the social worker, teachers, and other personnel received airing at the weekly staff meetings, the expectation grew to certainty. Naturally, the first concern was with the actual classroom atmosphere, for it was here that all the children worked for a significant part of the school day. It soon became apparent that there were a few children who represented distinctly severe problems in behavior; children for whom an emotionally relaxed classroom atmosphere was not enough. After full discussion, it was decided that an approach approximating play therapy held promise, at least on a trial basis, for a few selected children exhibiting certain types of behavior.

The play therapy environment was to be extremely permissive in nature, the object being one of leading the child to feel that he was unconditionally accepted by the therapist. Once accepted, the child might then act out his hostilities without guilt, gradually building positive identification with more socially accepted behavior. For practical purposes, the intent of the play therapy work employed in the project was very similar to that employed by Slavson.[1] It should be noted, however that the desire to learn more about the children in question prompted the experiment fully as much as did the prospect of providing therapy. The term "therapy, "should thus be taken advisedly.

Selection of Children for Therapy

Accordingly, the teachers of the classes involved in the project referred children considered to manifest behavior which might receive amelioration through play therapy to the project social worker, who was to be the therapist. Eight children were referred for consideration and accepted as suitable for play therapy work. All were drawn from the two older classes of the project. A total of 107 play therapy sessions took place in the 1957-1958 school year. During the second year of the project, play therapy with individual children was discontinued in favor of group therapy within the two older classes, the project social worker again serving as the therapist.

General Methods of Therapy

Play therapy sessions were held in a small central office room. Its incomplete walls made it neither soundproof nor entirely isolated from the surrounding offices. Children could roll under the walls and throw objects over them. They could hear conversations held in the outer office. The room itself was equipped with a doll house and furniture, a family of wired, rubber covered dolls, as well as nurse, doctor, and police dolls. Certain toys were secured for the express reason of encouraging expressions of hostility and aggression: an Ack-Ack gun, two peg boards with mallets, drums, balls and a punching bag. Materials requiring less structured activity were several types and colors of clay, and a portable blackboard and chalk.

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[1] Slavson, S. R., An Introduction to Group Therapy, The Commonwealth Fund, New York, 1943.

The children were advised at the very beginning of the therapy that there were few rules for the use of the playroom and that, in the main, they could use it and its furnishings much as they liked. One rule which was dictated from practical cause was that preventing running in and out of the playroom during the session. It was stipulated that toys which were thrown out of the playroom, or which rolled under the partitions during the sessions, would not be recovered until after the session. A second restriction was that each session was to be limited to forty-five minutes in length. Other limitations to the children's activities were not imposed until situations in which such limitations might be meaningful to the children arose. For example, instead of telling the children that they could not attack the therapist physically, this interpretation of limits was made after a child had slapped her or had made an oral threat to attack her. Definition of such limits was found to be necessary with only two cases.

The work of the actual therapy sessions proceded from the assumption that to be most helpful, the therapist must begin at the client's emotional and intellectual levels. In accordance with this principle, many devices were used to prove over-all acceptance of the child by the therapist. The therapist waited for the children to assign her role by word or implication, asked them to assign lines of speech, too, unless they were obvious. Specifically, the therapist did not approve or disapprove of behavior to any degree, but tried to ask questions which might promote self-evaluation, ameliorate excessive feelings of guilt (e.g. for the breaking of toys) and encourage the children to give themselves due credit for their positive accomplishments (such as for physical strength, coordination, patience, imagination, perserverance, etc.). There should have been, therefore, little effort on the children's part to behave in any particular way for the sole purpose of achieving and/or retaining approval of the therapist.

During the sessions, the therapist at times interpreted the children's motivation to them. She used such questions as "You're wondering what I will really do when you leave the playroom?" (when a child was gradually disappearing under the room's incomplete walls) or "You feel more angry when I don't get cross?" (when the child became anxious about non-punitive attitudes); or "It's all right for you to play tricks on me!" (to which one child responded with "How do you know?"). The therapist usually sat in a small chair at the child's level and fairly near him, trying to speak consistently in low, interesting tones denoting not only acceptance and interest, but also respect.

The cases of three of the children seen in therapy will be summarized in the following pages. They have been selected to represent three levels of accomplishment in gaining satisfactory play therapy relations with project children. Each will be described in terms of behavior characteristics prior to therapy, apparent conflicts discovered during therapy sessions, and progress (activities) of the therapy periods. Fictitious names have replaced the children's actual names.

CASE 1

Behavior Characterists Prior to Therapy

Jimmy, an eight year old boy, was referred by the teacher because of his seeming lack of self-confidence and the fact that he acted as a disturbing influence in the classroom. It was conjectured that a possible cause for his behavior lay in the home situation: His father was dead, his remarried mother lived at a tuberculosis sanatorium, and his two older brothers were placed in separate boarding homes out of town. Jimmy's stepfather worked at an industrial plant. Jimmy was presently living at a children's home, where he was described by the superintendent as a "funny little boy who played mostly by himself."

Jimmy had made himself known to the therapist before he had been selected for therapy work. He had tried to get the therapist's attention on numerous occasions by good-natured fisticuffs or by "tackling" her. Evidently through conversations with other therapy participants he had learned of the play therapy sessions and had accepted them as times in which this type of active behavior would be appropriate.

Apparent Conflicts

It has previously been noted that it was expected that Jimmy's problem was closely related to his family situation. In therapy, he avoided speaking directly of the other family members and his teacher for a long period, yet his play with dolls later revealed much of his true feelings about them. On eight occasions his play with the mother doll suggested love; on five occasions, ambivalence; and on one occasion, hate. He believed that his mother felt well enough to come home, yet the doctors would not allow her to do so. He gave vent to much hostility which seemed to say, "I love her but the doctors keep her from me and sometimes I'm mad at her, too. She didn't have to 'abandon' me!" He became anxious as he spoke of her directly, which he seldom did, but once when the therapist commented upon the length of the belt he wore, he retorted, "It's not too long! (obviously it was) My mother made it!" During one entire session he played the role of "baby," a dramatization appropriate to this role in nearly every detail. It appeared that he enjoyed regressing to a stage in his development at which his emotional needs had been most adequately met. He played this role only once, however. He did show great deference for the nursing bottle throughout therapy, becoming anxious if he shot it off the table, saying apologetically, "I meant not to" as he replaced it. At times he had the nipple in his teeth for moments, shook it angrily, and commented, "Maybe I'm hungry for milk!" He treated the doctor doll cruelly, stomped on it, tried to pull it to pieces. Other activities further indicated his feelings concerning doctors. He expressed his hostility toward the police even more vehemently. Jimmy and his brothers had experienced trouble with the law when they were without daytime supervision for a time after the mother's hospitalization.

Jimmy referred directly to his stepfather only once, indicating that this relative had taken him to the sanatorium to see his mother. For times he expressed strong hostility toward the father doll, such as "hanging him on the roof (of the doll house) by his nose and then let him fall off in the mud," and by jamming the doll, head first, against the roof many times in succession, once threatening, "I'll take you apart."

Although he carefully avoided mention of his teacher or of teachers in general, Jimmy expressed hate toward the teacher doll three times by stomping on it with his foot, jamming it head first down the chimney of the doll house, and when it fell to the floor, kicking it to a far corner of the room to remain there.

On the other hand, Jimmy apparently identified closely with the therapist. This is demonstrated by his playing that he worked in an office, by his marking of a cardboard box with all the gadgets that the therapist's car had, and his seeking out the therapist nearly every school day just to say "Hello," to lay his head upon the therapist's shoulder momentarily and then to say "Goodbye."

Therapy Session Progress

General observations of his play revealed a number of outstanding personal characteristics. First, he manifested seemingly limitless imagination in his construction of his "boxcar" and its use to go to the lake to swim, to town, to work, and to turn it around to be parked in the exact spot he chose. He never ran out of ideas for dramatizations, seldom asking overt participation from the therapist. There was no use of physical means of the sort used prior to therapy in getting the therapist's attention in the playroom.

A second group of observations serve as evidence that Jimmy showed unusual perservance in his play, never seemingly becoming discouraged, showing no anger beyond a very mild self-recognition of the mistake when things went wrong. He appeared to have good muscular coordination and strength. He could pound pegs into the peg board with deadly accuracy; make a goose of clay which looked like one, and repair the doll house after its walls caved in. He tolerated pain well, and never complained when he hit his finger with a mallet or bumped his head. In play, he did many things which the therapist interpreted as trying to prove his "goodness." He was neat, repaired broken toys to the best of his ability, "cleaned up" the playhouse, appropriately arranging the furniture in it.

Numerous techniques were used to assure Jimmy of the therapist's acceptance of him as an individual with certain rights. The therapist usually played the role of a concerned, interested, but not over-protective, mother when he played the baby role or threatened to "drown" in deep water. His rights to privacy and secrecy were respected when he indicated that he chose not to tell certain things, or to keep secret what he was doing as he hid under the box, or to play tricks or surprise the therapist. When he tested the few rules of the playroom, the therapist interpreted his testing. Universal statements were often made to ease his inappropriate anxiety: "We all feel like acting like babies sometimes. Then people will take care of us." or "Ping pong balls break when they are played with enough." or "In this place we don't need to feel guilty about breaking things." It was the therapist's hope that he would learn to feel less guilt about inconsequential things and more about misbehavior which adversely affected his relationships with others. Late in the therapy he would often admit the reasons for which he misbehaved. He would say, for example, "I threw those balls outta the room on purpose" or (standing on a table and pounding the ceiling with a mallet) "I going to knock the whole ceiling down!", then relenting with "I guess I not!" It might be hypothesized that he made such decisions not only because he believed that the therapist would not approve, but also because he did not posses sufficiently strong motivation in the form of anger to make the action worthwhile to him.

Early in the therapy, Jimmy played mostly with furniture and toys other than the dolls. Later he gave nearly his full attention to play with dolls, treating them much as he apparently felt about the people whom they represented. During the last half of the therapy period he used unstructured materials mainly, utilizing his imagination to bend them to fit his purposes.

At the termination of therapy, the social worker at the children's home indicated that Jimmy was relating more satisfactorily with other children. His teacher's report included a statement to the same effect. A year later, his mother (who had returned home and attended parents' meetings religiously) spoke of having many problems with him, explaining that he still did not appear assured to her love and solicited proof of it by many inappropriate and hostile means. It appeared appropriate that the therapist discontinue an active role in Jimmy's life at a time when his mother could assume a more active one, because lasting security would need to be built with a figure who would remain important and close to him indefinitely.

CASE 2

Behavior Characteristics Prior to Therapy

Helen, a nine year old brain-damaged girl with an I.Q. in the lower 50's, was referred by the teacher for inattentiveness, short attention span, a tendency to dominate other children, and a general lack of patience. She had a well controlled convulsive disorder of a mixed type. Her parents gave the impression of being stable individuals and were regular attendants at parents' meetings.

Apparent Conflicts

Helen manifested ambivalence toward her mother with almost equal expressions of love and hate. She saw the mother as the main disciplinarian of the family, yet recognized that mothers have many other roles that are more pleasant. References to the father were predominantly those of love. They are adequately summarized by a few of Helen's comments: "I'd like to have him come to our class picnic. He does nice things for us like put water in the swimming pool. Even when he's in the doghouse with Mother, he sneaks back to see us kids. He likes us."

In her references to teachers (while using the teacher doll), there was much more hate than love. The one reference indicating love was, "Teachers and mothers are both best." As she played that a teacher and others were involved in a wreck, she sent all of the injured to the hospital except the teacher; this doll she cast aside. She manipulated the teacher doll's arms and legs mercilessly, yet articulated little of this hostility. Although she was not well accepted by her peers, there was little reference to this or to peers themselves in the playroom sessions.

The most significant feature of Helen's personality seemed to be her feminine protest, through she covered this from the casual observer by excessive pride about her cleanliness, her clothes, hair, etc. She blamed the messy playroom onto boys. In all, she seemed to say, in essence, "Boys are bad but they have prerogatives which I envy. I'd much rather be one." In a total of 13 recorded instances in her dramatic play, sex appeared to be the central theme with curiosity and feminine protest the most evident factors. Her hopes for the future seemed summarized in her statement, "When I get big I'm going to be a mother and I'll need a father, too, and then my father will be a grandfather to my children."

Therapy Session Progress

Helen's speech and play showed much pre-occupation (16 recorded instances) with wrecks, death, and illness. The fact that she had seen a car accident in which an aunt and uncle were killed during the early portion of therapy undoubtedly accounts for this concern. She manifested some confusion between death and illness, sometimes burying the ill. This confusion was somewhat cleared up during the course of therapy.

There was much compulsion and perseveration in Helen's play. The former was shown in her excessive concern lest she or her clothing become dirty and her insistence that all clay was recovered from the floor, even to the most minute particle. She counted drum beats and the number of times she bounced the ball or swung the dolls rhythmically. She told the therapist, "I miss you" dozens of times, sometimes when the therapist had not been gone. Her speech and play denoted much flight in ideas. Perseveration was also a prominent feature, yet it manifested itself only in activities in which she felt she achieved well. She had little imagination, little patience, and vented her anger upon inanimate objects.

The methods used in her treatment included repeated, and seemingly endless, assurance of the therapist's acceptance. On one occasion she asked the therapist to choose between the sister and the doll representing herself. In order to sharpen her awareness of the meaning of questions and conversations, the therapist played many "give and take" games with her. As the ball was bounced back and forth, the therapist would say, "question-answer," "give-take," etc. but this concept seemed to remain meaningless.

At the conclusion of therapy, Helen had identified with the therapist, yet needed consistently expressed assurance of acceptance. She became even ingratiating. She was able to "hear" better; that is, was more attentive, though not remarkably so. A large quantity of diagnostic material came through during the treatment period, but her response to treatment was minimal. As the therapist reviewed the symptoms given upon referral, it appeared that most of them could be attributed directly or indirectly to her brain damage. Despite the relatively close identification with the therapist, her behavior seemed to make her an especially poor candidate for play therapy.

CASE 3

Behavior Characteristics Prior to Therapy

John, a ten year old colored boy, was referred to play therapy for general incorrigibility, stealing, lying, lack of motivation for academic work, and extreme hostility. He was a prime example of children who hate and certainly one of the most dramatic pupils of the project group. He lashed out against his world in the main, but upon infrequent occasions was a love-giving, love-soliciting, delightful boy.

Apparent Conflicts

It was apparent to all who knew John that his problems had arisen in a barren home environment in which his parents had been separated for the latter half of his lifetime. "The man who lives with us" apparently was not an adequate father substitute. The mother found it impossible to give the love that John needed and demanded; she lashed out at him verbally and physically.

John was seen in eleven dramatic play sessions in which he seldom needed the dolls to help him express his strong hostilities; rather, he was able to speak of others directly. On three occasions he referred to his "ugly old mother," though there was ambivalence expressed toward her, tempered by his strong wish that she would love him more. Three times he made strong demands that the therapist telephone her with certain demands such as, "...come to parents' meetings....to take me to the dentist....to bring treats to school for the children for my birthday..." Apparently he invested sufficient power in the therapist that he felt the fulfillment of such demands within the realm of possibility.

The emotion of hate relative to father figures predominated over love. He attached the most violent kind of obscene and profane language to "that man" in his family. In an imaginary telephone conversation he once exclaimed, "No! They're not here. They're at the beer parlor drunk!" He especially hated "niked" (naked) men and those who delayed reporting for work by "just messing around." Once he asked if one of the male administrators spanked our secretary if she didn't work. Another time he made a terrific noise in the playroom and when whispered to the therapist that he was "trying to 'disturb' ____________________ (administrator)." In summary, John's behavior seemed to indicate hate for every man he knew well, but curiosity about whether or not the administrator might actually be kind.

Therapy Session Progress

Problems depicted by John's play included mainly those associated with sex, but occasionally they reflected his rejection of authority and authority figures. He seemed to equate nakedness with anger. John's feelings about his teacher were exclusively hostile. He seldom played with the teacher doll except to set it solidly upon a chair and to tell it to stay there with her "ugly old tablets and books" or to spank it and accuse it of being angry afterwards. He called his teacher most of the "uncomplimentary" names that he knew, and threatened devastating attack upon her. He gave the impression that he felt strongly rejected by his teacher and rationalized that he didn't care and hated her in return.

In eight dramatic instances John depicted strong paranoid (suspicious) trends. He believed that the teacher and therapist plotted against him through conferences; that the notes taken during play periods were for some ulterior purposes, and that the secretaries in the outer office listened to the play therapy sessions and talked about them. He stated that he believed that the therapist "cussed under her breath," even though she didn't "say it out loud." The therapist's refusal to show anger in response to his anger frustrated him no end, with him hating her "ugly old clothes, ugly old house, and ugly old stinkin' furniture!" He was utterly confused by meeting an adult who did not return hate for hate. This apparently resulted in his feeling that he alone was "bad" and prodded his conscience. He could then only use the defense projection to "prove" that the therapist was as "bad" as he, though the therapist was "too stubborn" (John's words) to prove it overtly.

John included much drama and role playing in the playroom, usually assigning the therapist the leader's role in his major productions and responding when the therapist asked him to supply the lines for it. He laughed heartily at the therapist's naiveté as she asked him what he thought she should do or say in the assigned roles. He demonstrated a fairly well developed sense of humor and levity in attitudes. His imagination as he set up a broadcasting studio and acted as master of ceremonies, and in his organization of a court scene, suggested the thought and action of a child of normal intelligence but with a severe emotional disturbance. In most dramatizations, he assumed the role of the powerful one, the antithesis of his role in real life. He sentenced children to the reform school (in the role of the court) after they were "beaten and hung," then relented and allowed them to "return home in a week."

In smaller productions, he assigned the therapist the role of his mother, directing her angrily to "cook and get me something to eat!" He seemed happy as the therapist fried him "eggs" and provided him milk for the nursing bottle.

Methods of therapy most frequently used were those which would assure John by word and deed that the therapist respected him and his rights. Ego-supportive techniques were used as the therapist accepted the roles he assigned her and asked his advice about her lines, etc. When he slapped the therapist or threatened to attack her, the therapist held his hands gently, telling him that "I could not let you do that," adding that he could not convince her that he was "bad," no matter how hard he tried. He usually relaxed almost immediately, as if such limitations offered him security that he could not derive from complete freedom. There was a good deal of testing of limits throughout the therapy period as he seemed to need to assure and re-assure himself of their existence and their consistency.

Because John usually offered some resistance to returning to his classroom after the therapy sessions and because it seemed ill-advised that a therapist use physical force with him, one of the other staff members obligingly "helped him find the way" after the sessions.

On the basis of the play therapy experience, one may well believe that John wants reasonable and consistent limits set for him and assistance in staying within those limits so that he does not have to feel that he is "bad." Consciously he fights and tests these limits. For him to disturb others is his main resource for guaranteeing that he gets the attention (although almost always negative) he feels he so justly deserves. To be punished is better than to be disregarded or neglected, he seems to reason.

CONCLUDING COMMENTS

The salient features of the play therapy program with the project pupils have been presented in the foregoing pages. To characterize the work as either a success or as a failure is not possible in such an exploratory venture. Certainly the information which the sessions gave was valuable to the project staff, for it enabled a much clearer picture of the individual child's underlying difficulties to be drawn. In some cases, a change of procedures in handling an individual child in the classroom came as a result of information gained through play therapy. At the same time, there would be difficulty in substantiating a claim that play therapy work of the sort attempted in the project actually brings about changed behavior with educable mentally retarded children. Evidence gathered in the project's use of such therapy was necessarily restricted to impressions rather than any sort of objective data pointing to definite conclusions. Such work with mentally retarded children in the project might be regarded as having established a few guiding principles: It has been demonstrated that for some mentally retarded children, identification with a play therapist can be gained through a relatively few sessions; for other children, perhaps because of features of their sub-normal functioning or perhaps because of other reasons, identification is not gained early in therapy. Ultimate success which might attend an extended period of play therapy remains an unanswered question that deserves attention in future work regarding behavior problems with educable mentally retarded children.

GROUP THERAPY WITH A CLASS OF RETARDED CHILDREN

Formation of the Class

During the second year of the project, an experiment in group therapy of a kind was carried out with the oldest class of educable mentally retarded children. Eight of the eleven boys and one of the three girls of the class manifested one or more types of personality disturbance felt to be a serious nature, yet for which group work might prove beneficial. Problems within the class ranged from those related to sexual identification to those fostering extreme hostility and aggression. Some pupils repeatedly directed their aggression toward their peers on the playground; one occasionally directed it toward the teacher in the classroom.

The teacher of the class and the social worker determined that therapy sessions would be held at the pleasure of the pupils. The children would be encouraged to determine, through secret ballot, whether or not they wished to try a group meeting for a trial period; they would likewise determine the continuance and termination of the sessions if they were once begun. On two consecutive days, the teacher discussed the purposes and goals of group meetings with the class. She explained, in brief, how such meetings often helped children become happier people. Direct references were made (in words understandable to the children) to possible assistance in developing both a realistic self-image (intra-personal) and an awareness for other people's feelings (interpersonal). The explanation was, in essence, an interpretation of the teacher's and socal worker's plan that a non-judgmental climate where the children might express verbally their true feelings would be provided. These feelings would be considered as important because they affected the children's behavior and the kind and amount of satisfaction they are able to derive from living. Participation, it was pointed out, would be entirely voluntary. The scheduling plan proposed that twenty minutes of the noon hour play period and twenty minutes of regular time would be taken each day for discussion. The social worker was to act as the group leader and the teacher as recorder for the sessions. The record-keeping aspect of the experiment was justified to the children on the basis of, "We feel that the things you say are important enough to be written down." Following the complete presentation of the proposal, the class voted, eleven to three, in favor of commencing the discussions on a trial basis.

Early Discussions

The leader summarized the purposes of the meetings and discussion methods at the first meeting. In order to motivate interest and discussion, she told the children the story of the stubborn mule taken by his owner to the mule trainer. The trainer had begun by beating the mule over the head, and, when admonished by the owner that "I brought the mule here for you to train, not to beat!" the trainer responded, "I'll train him--but I have to get his attention first!" The majority of the class seemed to understand the point of the story, and used it as a spring board for launching into a discussion of their own pets and their handling. Responses concerning the avoidance of brutality with animals were of the order: "It would be afraid and wouldn't play with us anymore;" "It might bite or hurt us;" and "It would learn to hate us." Six children carried the bulk of the conversation in this first session.

In the second session, eleven children voiced their feelings about handling pets. The subject was apparently one which was easily discussed, yet one which was close to their interest.

During the third therapy session the children spoke of, and responded to encouragement to evaluate, different ways that *people* secure each other's attention. References were to *other* people, as might be expected, and included attention toward physcial attack, speech, different noises, and unusual behavior such as tricks or wearing "different" kinds of clothing.

The group was disturbed during the fourth session by the necessary removal of one child for extremely aggressive behavior (including persistent obscene and profane speech). In due time, however, they were quite successful in a thoughtful review of the attention-getting methods previously cited and in a continued evaluation of them. Remarks were still concerned with *other* people, however. Even so, they had made the transition from the training of pets to a consideration of interpersonal relationships, a topic which continued throughout the sessions over a four month period.

Prominent Features of Subsequent Group Sessions

The subjects discussed in group sessions came primarily from the children's own experiences. In cases where the children gave evidence of experiencing strong inhibitions because of the nearness of the topic (s) to their own emotional experiences, Ojemann's projective stories[1] were used to turn attention once again to the emotional problems of others. This printed material became invaluable during crucial periods. Its use was discontinued during the last two months, however, at which time the children accepted the daily discussion periods as times to iron out the more severe problems they were facing.

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[1] Ojemann, Ralph H., *Teacher's Manual for Behavior Materials in the Primary Grades* (unpublished)

All told, eighty-five discussion sessions were held during the four month period of the experiment. The first seventy-five (fifty discussion hours) were analyzed to determine the frequency with which certain topics were considered. The amount of participation given by each child was also of interest. An analysis for determining both was carried out with the recorder's near-verbatim daily records.

As may be seen from consulting Table XXXVII, the topics considered during the first seventy-five therapy sessions fell mainly into two large classes: those relating to interpersonal relationships, and those relating to the individuals' evaluation of and feelings about themselves. Interpersonal relationships were discussed more than twice as often as were intrapersonal relationships. The emphasis upon the former may be partially explained in terms of the unusual distractability and suggestibility of the group: they did a good deal of free association unless the leader utilized fairly firm controls. Controls were exercised only on selected occasions, where pursuance of the topic, albeit one emotional in nature, was deemed necessary for progress. For the most part, techniques of control were avoided lest they inhibit the spontaneity and freedom which the children had been led to expect.

One episode treated at length in the discussion might encompass several of the topics included in sub-classes in the table. Ordinarily, only the main sub-classes were tallied from the session minutes for the purposes of tabulation. In this way it was possible to identify the major topics and trends of discussion that might otherwise have been obscured by minute details.

Emotions and problems relating to striving for love (and the frustrations of those strivings) were recorded in 138 instances. Attention-getting devices were discussed periodically throughout the four month period. Attention seeking was treated as neither "bad" nor "good," but as one of the main love seeking devices. The children determined that some methods for gaining attention operated well on the playground, yet proved dangerous at home. They were encouraged to assign the reasons for this unless, as in a few isolated instances, such would point up negative factors in the parents and/or in their handling of the children. Closely tied to this topic was the question of friendship with other children, an area of discussion that brought out expectations held for their friends, and the ways in which people go about making friends.

Feelings of others' rejection was recorded as having occurred eighteen times. In an effort to bolster confidence in the children, the leader posed questions which, when answered by the group in the affirmative, might be particularly ego-building. For example, she might ask the entire group, "Do you feel that ____________ has a right to be proud of the fact that he almost never interrupts anymore?" Naturally, this device was used sparingly and for the benefit of those children who had experienced a great deal of rejection by others.

The topic of "hate" was recorded as having occurred in 116 separate instances. The children were encouraged to consider the fact that hate may pervade a personality; that it may predominate in the relationship between two people, and that it depends largely upon the conditions within an individual and his environment. The children spoke freely of their feelings about others bossing them or using profanity or obscenity toward them. Later in the series of sessions, they began to face their own problems with respect to this topic and to think in terms of socially acceptable channels into which anger might be directed. The frankness with which some of the children could discuss having

TABLE XXXVII

FREQUENCIES OF TOPICS DISCUSSED BY A CLASS OF RETARDED CHILDREN DURING 75 GROUP THERAPY SESSIONS--CEDAR RAPIDS OLDEST GROUP, 1958-1959

A. Interpersonal Relationships Basic emotions as they affect behavior		
a. Love		
1. Friendships	37	
2. Attention-getting devices	30	
3. Physical appearance, hygiene	24	
4. Feelings of rejection	18	
5. Adherence to rules	10	
6. Courtesy	7	
7. Daydreams	6	
8. Admissions of guilt	3	
9. Gifts and services	3	
Total		138
b. Hate		
1. Generalized free-floated anger	43	
2. Obscenity, profanity, prevarication	32	
3. Punishment	29	
4. Defying authority	7	
5. "Bossiness"	5	
Total		116
Grand Total		254

B. Intra-personal Relationships Basic emotions as they affect self images		
a. Love.		
1. Feelings of worthiness-evaluation of rights	25	
2. Personal appearance, hygiene	24	
3. Sexual identification	16	
Total		65
b. Hate		
1. Feelings of guilt-seeking punishment	29	
2. Embarrassment	17	
3. Rights and responsibilities in its expression	9	
4. Feelings of unworthiness	4	
Total		59
Grand Total		124

cheated in class (the teacher was present, it will be recalled) spoke well for the security which they had developed in the classroom setting before the therapy period.

As noted previously, one of the most significant characteristics of the children of this class was their need to develop realistic concepts of themselves. Several seemed to have developed attitudes to the effect that to exhibit pride is bad; that to feel and exhibit anger is bad; and that the rights of children are extremely limited and inconstant. The class members were therefore encouraged to evaluate their rights to hold and express opinions, to experience happiness, to succeed in various endeavors, and to have and express emotions. All of these carried the necessary requirement of bearing responsibility for one's own behavior. Concepts related to the aforementioned ideas were discussed in a total of 124 recorded instances.

In one of the early sessions, problems related to cleanliness were considered as one of the problems of other people. Several of the children with serious problems in this area suggested the most rash treatment of "those" with such problems. They became quite emotional about the topic, yet their attitudes were suprisingly serious and positive. Because the therapy sessions began after an outdoor play period and because few of the children routinely washed their hands before they came into the classroom, the leader instituted a program of self-inspection of hands at the beginning of each session. They voted for themselves if they believed that their hands looked "reasonably clean." As this procedure was gradually discontinued (in order to test its real effectiveness) the children rather quickly lapsed into their former habits. Such regression provides some degree of evidence that the motivation had come mainly from the approval that clean hands gained from others and that once the "prize" was taken away, the handwashing was no longer worth the trouble.

Many of the problems experienced by two of the boys and one of the girls appeared to be related to their confusion in sexual identification. They had as preferences for dress and activities those which are culturally associated with the opposite sex. The other children felt strongly about this matter and articulated their opinions and feelings freely. When called upon to describe their feelings about these incongruities (in dress and behavior), most of them said they felt "funny." Elaboration of the meaning they attached to the feeling included being uncomfortable, ill at ease, and "as if something were wrong." Thus in as painless and indirect a manner as possible, the two effeminate boys and the masculine girl gained some intellectual understanding of the cultural expectations for the two sexes. The girl discontinued wearing slacks, although she still fought like a boy upon occasion. The two boys no longer wore nail polish. They also made some modifications in their effeminate associations with girls. Although it seems doubtful that the basic problems of these children were markedly changed, there was some obvious symptomatic improvement.

It was the leader's hope that the children might come to accept the emotion of hate (anger) as being appropriate in certain situations, but also to accept the fact that the choice they made regarding its expression determined the accord which they could expect from others. The children experienced much strong (and understandable) resistance as they spoke of themselves and their own feelings. The frequencies of Table XXXVII bear this out. How far they progressed in the development of more realistic concepts and attitudes in this respect is a change that is difficult to assess. It was judged by the two staff members that progress was recorded through the group therapy for many of the children.

Table XXXVIII indicates the extent to which the children of the class participated in the group sessions. The data which appear in summarized form were gathered from the records kept daily.

Discontinuance of Therapy Sessions

The therapy sessions were discontinued after the eighty-fifth session. It was a warm spring day when the children first openly manifested their resistance to a continued use of part of their free play period for such a purpose. One child suggested that "we could talk when we have problems." After a joint consideration of the question, a vote was taken, the consensus being agreement with the boy's proposal. It was then arranged that the children would determine the social situations which they felt warranted assistance and, with the teacher, make decisions about the use of class time for this purpose. Discussions were indeed requested and granted on the two following days, the work apparently being to the satisfaction of all concerned.

Concluding Comments

It was the combined opinion of the teacher and social worker that nine of the fourteen children in the experiment gained benefit of one kind or another. Two boys with I.Q.'s in the low 50's found most conceptualizations too involved for their

TABLE XXXVIII

PUPILS' PARTICIPATION IN GROUP THERAPY SESSIONS

Names	B_1	B_2	B_3	G_1	B_4	B_5	G_2	B_6	G_3	B_7	B_8	G_4	B_9	B_{10}
Number of Sessions Attended	54	73	72	66	73	43[1]	69	67	68	50	65	27[2]	72	74
Percentage[3] of Sessions Participated	87	85	79	73	70	68	55	52	49	48	35	33	33	32

B = Boy G = Girl

It may be noted that four children participated orally in the discussions during only about one-third of the sessions they attended. Four other children participated in about three-fourths of those attended. The average participation for the class as a whole was speaking, at least once, in fifty-seven per cent of the sessions.[4]

understanding. Benefits for them seemed minimal. One withdrawn girl who entered the class late participated little and also made few discernible gains. One boy was very guilt laden and depressed when therapy began. He found it impossible to share his feelings or to face his own behavior with the group. He seemed to have gained little through the sessions, although the teacher reported later that he was more articulate after therapy was discontinued. One boy was evidently too disturbed to benefit materially. His inability and/or unwillingness to accept responsibility for his own behavior provided a disturbing influence in the group. A reorganization of his class schedule prevented his continued attendance.

The regular classroom atmosphere to which these children had become accustomed most likely was an especially positive factor in the group's ability to make progress. This atmosphere was one in which the teacher was consistent and firm, yet unusually permissive within realistic and well defined limits. In a classroom where the children had not been encouraged to make their own decisions or in one where they feared disagreeing with the teacher, this type of group therapy would seem inappropriate. Articulation between the therapy sessions and the remainder of the school schedule in the case of this experiment was gained through daily half-hour conferences immediately prior to the therapy sessions. There was a determination of the areas needing repetition and exploration as well as decision-making regarding approaches to be used. Some similar arrangement between therapist and teacher would most certainly seem called for in any group therapy attempted with educable mentally retarded children.

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[1] Because of a change in class schedules, B_5 was available to attend only 43 sessions.

[2] G_4 joined the class late and was available for only about one-third of the sessions.

[3] Percentages were computed on the number of sessions each student actually attended.

[4] This percentage takes upon itself special meaning when it is considered that three children of the class had fairly severe speech problems and that the levels of intelligence and self-confidence were subnormal.

There are many ways in which intelligence is revealed. The children who participated in the group therapy experiment did not appear as underprivileged with regard to intelligence as shown through ability to treat social relationships as the estimate of their general intelligence would suggest. Although they were probably more suggestible and distractible than like children of comparable chronological ages, they were surprisingly sincere, accessible, and responsive. The danger of underestimating the potentialities of educable mentally retarded children was never more strikingly brought to the minds of the two participating project staff members than in the group therapy experiment. Given careful guidance and freedom of expression, children of this sort often arrive at concepts and attitudes that are pleasantly surprising, to say the least.

CHAPTER 6:

Implications of the Project for School Workers

The Co-operative Research Project that has been described ~~in the preceding six chapters~~ was conceived and executed with the practical school situation constantly in mind. Nothing was done which might not be accomplished within a public school setting, allowing the addition of certain school staff members not now usually employed by the typical public school and certain services not now usually provided to pupils. The public school which at present offers special education classes and services for its educable mentally retarded pupils would understandably not need to add to its staff most of the workers who formed the staff of the project; the positions are already functioning within the special education system. The role of our project administrator may be comparable to the director of special education and school psychologist in the typical public school having special education facilities. The teachers and secretarial staff correspond to like positions currently in existence. The notable exceptions to what might be found in current practice would be: (1) Additional staff members in the roles of (a) the social worker and (b) the recorder; (2) Provisions for both medical and psychiatric examinations for all educable mentally retarded children; (3) More detailed record-keeping for practically all facets of the educational program; (4) More attention to both psychological and achievement testing; (5) A concerted attack upon the problems of building an adequate curriculum that provides for a sequential development of learning throughout the span of years that a child remains in a special class; (6) Increased attention to the problems of home environment and an attempt to ameliorate certain types of problems through direct and systematic work with parents. The major point to note is that none of these additions is out of the question for the public school, if its value can be seen. It is the purpose of this final chapter to point out important considerations in making a decision as to whether any local school system might wish to try some of the additional practices employed in our work.

A word of caution is appropriate before examining each of the foregoing areas in detail. The lack of a sufficiently lengthy period of time for observation of pupils' development is a great hinderance in most exploratory attempts in educational research; we feel that such a restriction was keenly evident in this project. Because the project concerned itself with a comprehensive program rather than a highly specialized phase of teaching or other type of work with the educable mentally retarded pupil, the attention of staff members had to be divided among several duties. The original plan for the project outlined many areas of inquiry, and each had to be given fairly proportional attention. What might have happened had the project been continued over a five-year period or a ten-year period is, of course, only conjecture; but patterns which seemed to be emerging from the first two years of work might have been clearer. For example, the subsequent achievement of the pupils who began in a special class at the age of six would be of high interest. The general improvement of home environment through social work would have been much easier to evaluate over a longer period of time. Changes in the pupil's personalities, so difficult to discern in a short period of time, might have become more readily observable. The general effectiveness of speech therapy work with educable mentally retarded children might have been much more clearly evaluated. The point to keep in mind is that an innovation in a program of training for the mentally retarded given by a public school system needs a rather long period of trial. Both the slower development of such pupils and the relative inexactness with which we are able to define and refine our methods of working with pupils contribute to the need for a sufficiently long try-out period. It should thus be understood that what we judge to be implications for schools concerned with problems of educating mentally retarded children are based upon what must be considered a minimum trial.

The value of a social worker operating within the public school setting for purposes of gathering, evaluating, and disseminating information regarding mentally retarded pupils was clearly demonstrated in the project. Our knowledge of the complexity of the problem surrounding most of our pupils would have been severely limited had it not been for the social worker's contributions. Further, the social worker provided a personal contact with the family, a contact that is difficult to gain through either the school administration or the teacher. The addition of a social worker to the public school special education staff is strongly recommended on the basis of our project experience.

Neither the psychiatric nor the medical examinations revealed astonishingly different results from what might have been expected. It would thus seem doubtful, in view of the financial expense involved, if the public school should attempt to provide these examinations for all educable mentally retarded children within its system. This is not to say that either individual referral or the urging of parents to obtain such examinations for their children should be discontinued. It is only to say that our experience indicated insufficient return upon the investment to warrant its widespread application.

We felt that the additional record-keeping, in terms of more examination results, anecdotal records, play therapy and group therapy records, and records of various types of parental contacts, paid handsome dividends. The staffings of individual children drew heavily upon such records. The totality of actual evidence concerning the pupils and the number of impressions of them drawn from numerous sources were both no doubt in greater abundance than in most current special education programs. As special provisions expand, as they undoubtedly will in the next few years, problems of class placement and various types of adjustments needed within special classes for individual pupils will likewise increase. The keeping of adequate records on pupils' behavior in the classroom and out of it, should facilitate all types of decision-making. While the number of classroom observations made for the purposes of this project is no doubt far too large both from a practical viewpoint and from a standpoint of employee efficiency, it can not be denied that such records assist in recognizing the pupil's total problem. It is strongly suggested on the basis of our work in the project, that a periodic review of individual pupils, using the types of information noted in this project report, be carried out in the special education program of the public schools.

Curriculum work at the local level also seems feasible in light of reactions to our attempt during the project. A written outline was achieved; this is important. Perhaps even more important, although a written record of it does not exist, was the exchange of thought and discussion that took place in the process of constructing the curriculum outline. Alternative ideas were introduced, discussed, and even argued. Through such sessions, the thinking of individuals was solidified, perhaps even changed. In the end, a solution acceptable to all was reached. The project setting thus afforded, even forced, concentration of effort upon this part of the total problem of educational programming for educable mentally retarded pupils. No resource was used which might not be available for use by any local school system sincerely interested in planning its instructional program for the mentally retarded; no more time was available for the work than is available in most schools. The implication that such work can be carried out effectively by a special education staff of a public school is clear.

In the final analysis, the real value of the project is doubtless its contribution to school systems in the state of Iowa, for conditions prevailing within the school system utilized by the project are most like those of other school systems within the same state. To our knowledge, this Cooperative Research Project was the first formal research effort in the education of the educable mentally retarded within a public school setting in the state; it is to be hoped that it is most certainly not the last. If the project has discovered information which may be built upon by others working under similar circumstances in Iowa, then its purpose will have been served.

APPENDIX

MEDICAL EXAMINATION FORM

Date of Ex. ______________________

Name __________________________ Sex ____ Birth Date ______________________

Height __________________________ Weight ____________

Pertinent History:

Prenatal period: (any abnormalities)

Natal: (any excessive trauma)

Post Natal:

breathing

feeding difficulties

twitching or convulsions

increased irritability

increased somnolence

Motor development:

vocalization
(vocal play, babbling,
cooing, etc.)

head control (pronated)

roll over

sit

crawl

stand alone

walk

talk (first word)

Code:
o=no or none
_/=normal
x=no information

Childhood disease	No	Yes	Complications, if any	Immunization	Date
Measles	___	___	________________	________________	
Mumps	___	___	________________	________________	
Whooping cough	___	___	________________	________________	
Small pox	___	___	________________	________________	
Diptheria	___	___	________________	________________	
Polio	___	___	________________	________________	
Tetanus				________________	
Other					
____________	___	___	________________	________________	
____________	___	___	________________	________________	
____________	___	___	________________	________________	

Head: Circumference________________________

Shape: Dolichocephalic__________________

Brachycephalic__________________

Other________________________

Hair: Color________________________ Consistency________________________

Eyes: Color______________ E.O.M.__________ L & A____________ Fundus

Vision: R L

Other

Ears: External____________________ T. M.____________________

Hearing: R L

W.V.(15")

Nose:

Mouth: Teeth: Number __________ Caries __________ Fillings __________ Orthodontic __________

Tongue:

Mucosa:

Throat:

Tonsils: Present __________________ Absent __________________
Size __________________

Neck: Adenopathy:

Thyroid:

Chest: Shape:

Lungs:

Heart & Circulation:
Rate __________________
Rhythm __________________
Murmurs __________________
Size __________________
Femoral Pulse __________

Abdomen: Shape:

Liver: Kidney: Spleen:

Tenderness:

Masses:

Genitalia: Circumcision: Other:

Testes Descended:

Skin:

Ext. Back Spine ______________________ Deformity ______________________

Joints ______________________________ Limitation of Motion __________________

Neurological:

Cranial Nerves __________________
Motor Nerves __________________
Sensory Nerves __________________

Reflexes: 1. Hyper 2. Normal 3. Hypo 4. Absent

T R L
T
B
BR
Abdomen:
Upper
Lower
K
A
P
Crem.

Gross Motor:

Agile
Normal
Clumsy

Handedness: R __________________ L __________________

Strength: Dyn. __________________
Jump __________________
Pull __________________

Personality:

Approach to Examiner

__________ 1. Spontaneous
__________ 2. With suggestion
__________ 3. With urging
__________ 4. Resistive

Speech

__________ 1. Spontaneous
__________ 2. Hesitant
__________ 3. Lisping
__________ 4. Stammer
__________ 5. Infantile
__________ 6. other

Reaction to Undressing

________________ Unassisted

________________ Partially Assisted

________________ Assisted

________________ Promptly without show of concern

________________ Co-operative but not enthusiastic

________________ Great resistance

General Description:

Interest and Curiosity:

Affect:

Activity:

General Impression and recommendations:

Adapted from A.C.R.P. Examination Form